

THE AUTOMOBILE

NEW YORK'S automobile carnival is in full swing. In the elaborateness of the decorations, in the universality of the participation of the trade, in the co-operation of the entire Automobile Row district, in the general hurrah, in the interest this celebration of the tenth birthday of the motor car industry in this country has aroused, and in Tuesday night's monster parade, the carnival has surpassed in magnitude and magnificence the fondest hopes of its promoters, the members of the New York Automobile Trade Association.

The two miles of Broadway from Forty-second to Eightieth street, comprising Manhattan's automobile row, is ablaze with flags and bunting. Not only is every building having to do with the industry decorated from cellar to roof, but the hotels, restaurants, saloons, and many shops have joined in making this carnival week a New York holiday so far as the hotel and motor car district of the city goes.

Along upper Broadway throngs parade the great thoroughfare rubber-necking at the decorations above and peering into the corridors below. The salesrooms and garages are ablaze with lights and gay with decorations. Demonstrators are at hand to answer questions and point out the particular features of the cars. All along the line there are reports of sales, consummated even thus early in the week and glad tidings of bright prospects ahead.

The dealers, however, have little time or inclination to talk of individual benefits derived. All have been fairly carried off their feet by the magnitude the carnival has assumed and the response New Yorkers have

given to their efforts. All are confident that the carnival will show results at once which will extend far into the season; to put it more truly and frankly, all rejoice in the conception and promotion of the celebration as a means of stirring up the motoring metropolis from its semi-lethargy and cynical pessimism to a realization of how very much alive the automobile is in New York. They are happy, too, at the successes Chica-

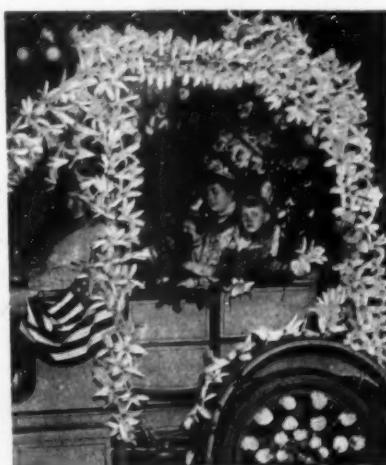
go and Indianapolis have scored through seizing so promptly their suggestion of a carnival and proving by prompt promotion the worth of the idea.

It is a revelation of the innate possibilities for enthusiasm and local patriotism the co-operation the carnival scheme has met with from the general New York public. Automobile Row furnishes an eye opener, indeed, of the extent of the local industry as emphasized by the fact that from Forty-eighth to Sixty-fifth street on both sides of Broadway there is an almost unbroken line of automobile trade establishments. The decorations pick them out. The spots between, occupied by many hotels, restaurants and saloons, are decorated, too, thus making the string of flags and bunting continuous along the route.

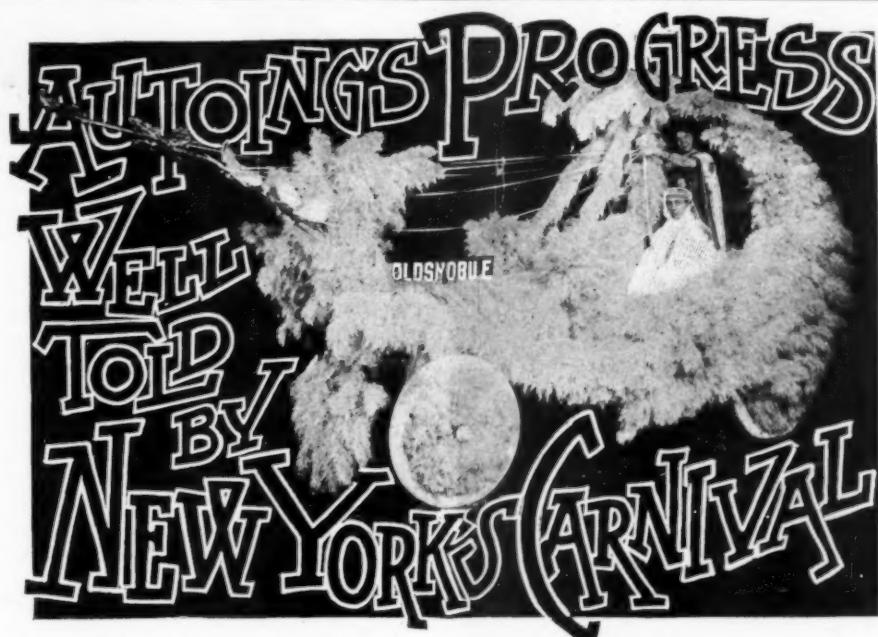
Below Forty-ninth street lies the hotel and restaurant district around Times square. This leads the building dressing with brave displays. Flags float from every window of the Times Building. Rector's, Shanley's, Churchill's and the Cadillac are smothered in bunting. The decoration fever is spreading and the professional decorators are as busy as bees adding red, white and blue to Broadway. Even as far down as the twen-

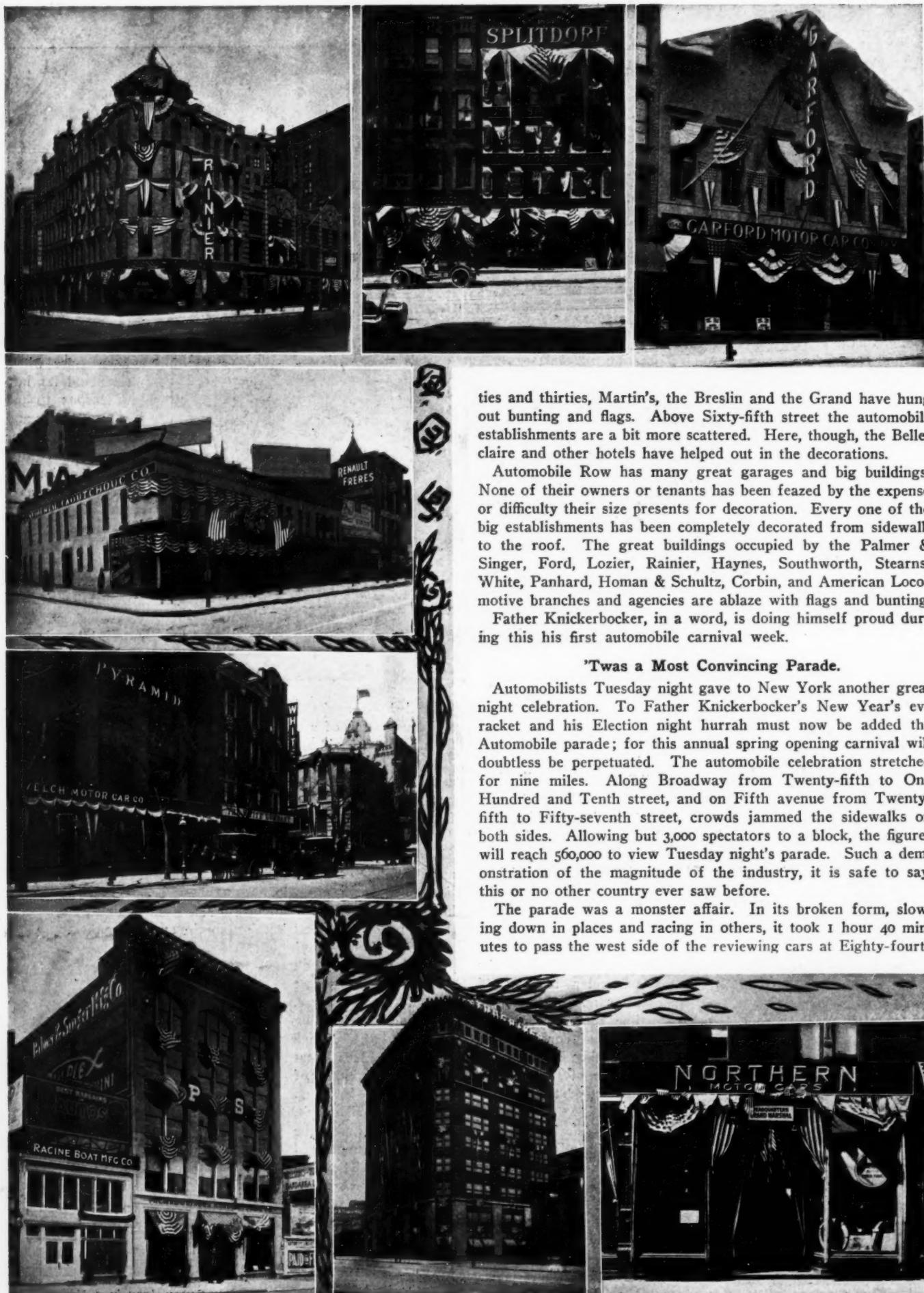


King Clark in a Waltham.



Queen Joan in a Mora.





ties and thirties, Martin's, the Breslin and the Grand have hung out bunting and flags. Above Sixty-fifth street the automobile establishments are a bit more scattered. Here, though, the Belle-claire and other hotels have helped out in the decorations.

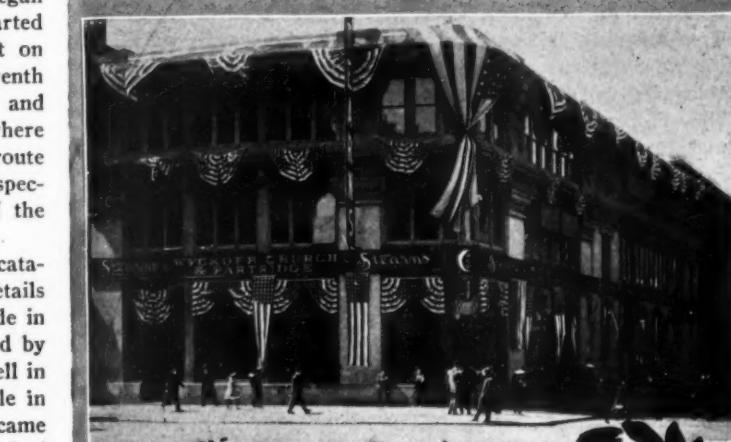
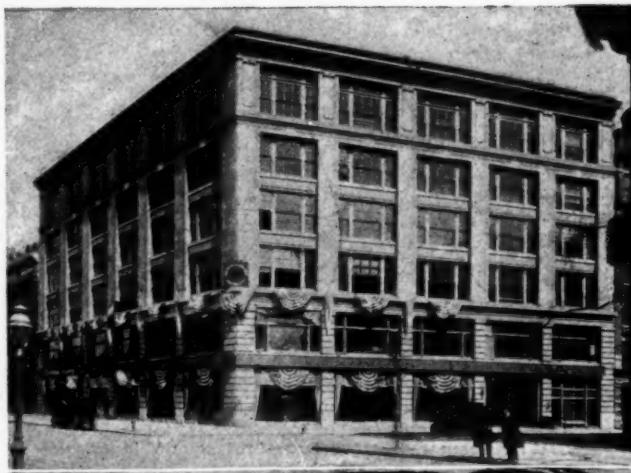
Automobile Row has many great garages and big buildings. None of their owners or tenants has been feazed by the expense or difficulty their size presents for decoration. Every one of the big establishments has been completely decorated from sidewalk to the roof. The great buildings occupied by the Palmer & Singer, Ford, Lozier, Rainier, Haynes, Southworth, Stearns, White, Panhard, Homan & Schultz, Corbin, and American Locomotive branches and agencies are ablaze with flags and bunting.

Father Knickerbocker, in a word, is doing himself proud during this his first automobile carnival week.

'Twas a Most Convincing Parade.

Automobilists Tuesday night gave to New York another great night celebration. To Father Knickerbocker's New Year's eve racket and his Election night hurrah must now be added the Automobile parade; for this annual spring opening carnival will doubtless be perpetuated. The automobile celebration stretched for nine miles. Along Broadway from Twenty-fifth to One Hundred and Tenth street, and on Fifth avenue from Twenty-fifth to Fifty-seventh street, crowds jammed the sidewalks on both sides. Allowing but 3,000 spectators to a block, the figures will reach 560,000 to view Tuesday night's parade. Such a demonstration of the magnitude of the industry, it is safe to say, this or no other country ever saw before.

The parade was a monster affair. In its broken form, slowing down in places and racing in others, it took 1 hour 40 minutes to pass the west side of the reviewing cars at Eighty-fourth



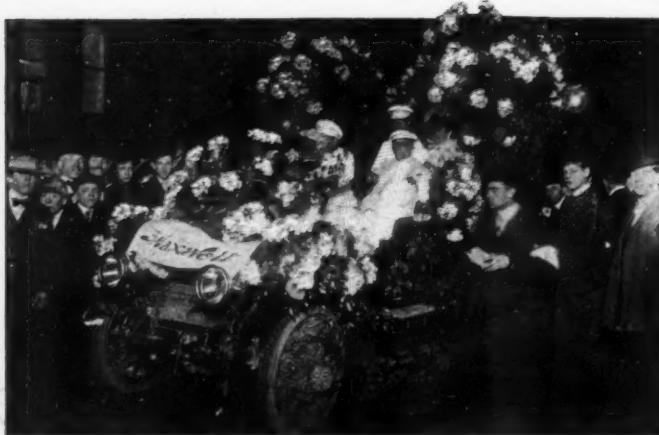
street. In solid order, after Grand Marshal R. G. Howell had waited for the ranks to close up, the procession was an hour in passing the judges. At its slowest gait, fourteen cars went by a minute and at a faster pace twenty-two were counted in the same time. This would indicate some 1,200 cars in line; in fact, the committee's conservative estimate put the total at about this number, distributed as follows: Ancient and racing cars, 100; dealers' division, 800; decorated cars, 50; commercial cars, 250. New York's biggest previous parade numbered less than 300 cars.

The four divisions formed in Fifty-seventh, Fifty-sixth, Fifty-fifth and Fifty-fourth streets, west of Broadway. They began to assemble after 6 o'clock, and at 8:35 the procession started down Broadway, its route taking it to Twenty-fifth street on that thoroughfare, then to Fifth avenue up to Fifty-seventh street, crossing over to Broadway and up to One Hundred and Tenth street and countermarch back to Columbus Circle, where it disbanded. Colored lights were burned on much of the route and along lower Broadway confetti was showered upon the spectators. New Yorkers, in a word, made a night racket of the parade, packing the restaurants until daybreak.

Features of the parade were too multitudinous to be catalogued in a single story, in which only comparatively few details can be touched upon. Inspector Schmittberger led the parade in a car trimmed with N. Y. A. C. emblems. He was followed by a squad of cycle cops, preceding Grand Marshal R. G. Howell in a Northern runabout, decked with flags and bearing his title in an electric frame. Mrs. Joan Newton Cuneo, the Queen, came next in a six-cylinder Mora car, seated on a flower-decked throne, smothered in roses. Leonard K. Clark, the King, in a Waltham, followed, also on a throne.

The first division was made of a mixture of the old and the





Benj. Briscoe's Maxwell—Winner of Second Prize.

new. There were chronological series of Haynes and Autocar machines, from 1898 to 1908; ancient Panhards, the original Welch, and 1898 Gasmobile, with "Birdie" Munger at the wheel; a '95 Apperson, a two-cylinder Locomobile, and an ancient White steamer among the racing cars of former and present times; Panhard, Renault, Mercedes, Lozier, Stearns, Simplex, Maja, Fiat and Allen-Kingston machines, Barney Oldfield and Joe Tracy being noticeable among the drivers.

The dealers' division followed. It was an almost endless procession, most of the makes being designated by special flags. Prominent in the line were 200 Maxwells, 70 Fords, 50 Oldsmobiles, and close to 40 White steamers. The Stearns cars had their names on red strips on a raised framework, and the Berliets bore big red flags, whereon were great white locomotives. The American Locomobile Automobile Company's garage, by the way, was the most elaborately decorated building en route, being festooned with electric lights from top to bottom. Rambler, Rainier, Haynes, Stevens-Duryea, and Pope-Hartford also make a brave numerical showing.

In the decorated division there were some notably elaborate creations. The first prize went to Gen. John T. Cutting's Oldsmobile. It was a dream in white, being completely smothered in pampas grass. Beneath a canopy a beautifully dressed girl sat; red electric lights illuminated the canopy and a cluster of colored lights blazed in front. The driver and mechanic were dressed as white-hooded Arabs.

Benjamin Briscoe's Maxwell carried off the second prize. A Queen surrounded by her ladies-in-waiting sat beneath a canopy of lilies and hydrangeas. The wheels were banked with chrysanthemums and the bonnet and driver's seat were enveloped in hydrangeas, colored electric lights illuminating the whole. Honorable mention was accorded the Oldsmobile company's other entry, a lilac-decked car, beneath whose canopy stood the Goddess of Liberty surrounded by pretty girls garbed in white.

The prize for the most grotesque car went to the DeWitt Auto Company's "hobo" car. A cooking stove with standing pipe formed the bonnet and tomato cans abounded. The wash was hung out to dry and brooms and brushes were elevated, while



DeWitt Company's Hobo Car—Grotesque Winner.

behind a boy's box goat-wagon dragged. The driver and passengers of this were made up as tramps.

Another clever comic conception consisted of the presidential candidates in a Lozier, in which the driver was Roosevelt; the mechanic, Taft, and the passengers Hughes, Cannon, and Bryan, all being well made up to resemble the famous men named. The sign above the driver's seat was: "Me or Him;" on the tonneau it read: "Have We a Show?" "My Message to My People" being behind. It was blank. Peter J. Fisher's car was dressed with all the flags of the hockey teams, while L. A. Hopkins' American Mors limousine was most artistically decked with colored electric lights. Dr. Julian P. Thomas, the aeronaut, had a flying machine rigged up on a motor tricycle. It did not, however, get as far as the reviewing stand.

Two boys rigged up a curved-dash Oldsmobile runabout as a 'round-the-world car that left Paris, April 7, 1907, and reached New York, April 7, 1908. It was loaded with tire and camp utensils and covered with mud. In the commercial section there was a stunt that aroused much merriment. Hitched to the tail of a motor truck was an old equine quadruped with a sign: "The Passing of the Horse."

One of the most amusing incidents of the entire parade was the arrest of Elwood Haynes by Bicycle Policeman T. H. Kerigan, who discovered that the original Haynes of 1893 was minus a license number, and he accordingly placed the veteran auto builder under arrest at Broadway and Fifty-seventh street. The magistrate, however, decided that he could release Mr. Haynes without violating the law.

The commercial vehicle division was an amazing demonstration of the varied utility of the automobile. It embraced sightseeing 'buses, furniture vans and many types of delivery wagons. The B. F. Goodrich Company had an elaborate float showing a monster Goodrich tired wheel illuminated by electric lights. The Continental and Firestone people also had trucks. Other trade exhibits included the Studebaker, Frayer-Miller, Panhard, Splitdorf, Fickling and Jones Speedometer. The Hewitt Motor Company showed many varieties of trucks and the New York Transportation Company put out a squadron of taxicabs.



Three Tire Companies Figured Prominently In Commercial Vehicle Divisions—Continental, Firestone, and Goodrich.

CHICAGO'S CARNIVAL CONTENDED AGAINST WEATHER

CHICAGO, April 4.—The first experience of the Chicago Automobile Trade Association in the promotion of a Spring carnival has left a satisfied feeling among the dealers, the only regret being that the weather was a little too chilly for comfort. The carnival came to an end to-night, after a week's run, and the local trade now is prepared to fall back to the routine pace and await the results of their show efforts. Summing the situation up, one feels that the affair would have been a much greater success had it really seemed more like Spring. Four days it either rained or was so cold that few cared to venture out for demonstrations, but the latter end of the week the weather man relented, and the brand of weather improved.

It was more a promoter of sporting events than as a show impresario that the trade association shone, the illuminated parade, two gymkhana, and a tug-of-war affording enough variety to interest the public and attract it to the "Row" in goodly numbers. But again the weather was against these events. The parade last Saturday night was witnessed by some 30,000 people, but it was a shivery lot, and the occupants of the cars braved pneumonia in making the circuit of the three sides of the city. Wednesday night had been selected as gymkhana night, but at noon that day it was raining, and Chairman Paulman decided to postpone until the following night. At 4 o'clock, however, the weather man was proved a false prophet. He had predicted snow, and that scared Paulman. However, at 4 o'clock, the sun came out, the clouds disappeared, and Paulman immediately decided to run the affair, after all, that night. He did, and it was a great success—so great, in fact, he decided to repeat Thursday night, with the tug-of-war as an additional feature.

The gymkhana was the first one Chicagoans ever had seen, and they liked it immensely. The technical committee of the Chicago Motor Club was requested to handle it, and it framed the rules, appointed the officials, and scored another success in the promotion line. The rules divided the gymkhana into five sections, the route being laid between Twelfth and Sixteenth streets.

Ford and Elmore Were Winners.

These five sections made a gymkhana which certainly furnished enough novelty to amuse the bystanders, who thoroughly appreciated the efforts of the drivers. In four of them it was necessary to drive on the high gear, but in the teter it was allowable to switch gears and to use the brakes. Twenty-four cars took part in Wednesday night's gymkhana, and twenty-eight on Thursday night. In each a different winner was evolved—a Ford runabout, driven by M. J. Lanahan, capturing the honors of the first affair, and an Elmore touring car, driven by Harry Sutlitzpaugh, taking the renewal. That experience counts was shown Thursday night, when much better work was done by the contestants. The Ford was first Wednesday night, with seven points penalization against it, while the Elmore improved on this the next night by going through with only one demerit, that imposed in the lemon-spearin stunt. Eight of the cars Thursday night beat the Ford's score, showing that practice makes perfect. The Ford was one of those to eclipse the first night's performance, but it only landed in a tie for fourth with the Mitchell, which was a runner-up in the first affair.

Average Race Was a Feature.

Probably the feature of Thursday night was the average race, in which the object was to maintain a 4-mile pace. In this, two cars hit it on the dot, the Elmore and the Welch. Wednesday night no one was perfect, the Pierce-Arrow and Mitchell being closest, with one point penalty. In the apple race, too, there was marked improvement, only three being perfect in the first attempt, and nineteen in the second.

The Elmore, despite its almost clean sheet, did not have much

to spare, for it was pushed closely by the Overland and Buick. Price, in the Overland, missed out through failure to maintain the 4-mile clip, being penalized two points, the only demerits he drew. The Buick, which was not in the first gymkhana, also slipped up in the average race, being penalized four points.

In the test Wednesday night the drivers clearly showed lack of experience, Lanahan being about the only one to have his lesson anywhere near perfect. His margin of victory was great, he being twenty-one points to the good of the Mitchell. He handled his car cleverly in the teter and obstacle events, and might have been tied with the Overland Thursday night had he not knocked over three blocks in the obstacle race in his anxiety to make a good score.

Rapid Wins Tug-of-War.

The tug-of-war Thursday night resulted in a clean-cut win for the Rapid truck, which outpulled the Meiselbach with little apparent effort three successive times. It was best three in five, and it was necessary for the winner to pull the other truck 10 feet. Each car was loaded with about 800 pounds of pig lead to give traction, William Duffy driving the Rapid, and Harry Endicott the Meiselbach. Both trucks were equipped with two-cylinder double-opposed motors, the Rapid being 24-horsepower and the Meiselbach 28. The former had planetary gear and the latter is friction-drive. In none of the three trials did the Meiselbach make a fight, the Rapid getting the jump each time and hauling its rival the required 10 feet without any apparent effort. Herewith are the scores:

Wednesday's Gymkhana.

Pos.	Car	Average Race	Apple Race	Saber-ing	Teter-Board	Obsta-ble Race Points
1	Ford	4	1	2	0	0 7
2	Mitchell	1	1	25	0	1 28
3	Pierce-Arrow	1	0	0	28	2 31
4	Rambler	2	4	1	25	0 32
5	Stoddard-Dayton	7	25	2	0	1 35
6	Franklin	3	0	2	30	0 35
7	Woods	25	4	7	0	1 37
8	Diamond T.	4	25	1	0	10 40
9	Overland	2	25	2	15	0 44
10	Holsman	4	0	25	25	0 54
11	White	3	25	0	25	2 55
12	Autocar	5	25	1	30	2 63
13	Knox	8	25	25	6	0 64
14	National	4	25	26	30	0 65
15	Welch	2	25	25	0	14 66
16	C-F	6	25	4	30	2 67
17	Baker electric	2	25	25	18	0 70
18	Royal	7	25	1	30	10 73
19	Pierce-Racine	25	25	25	0	1 76
20	Thomas-Detroit	4	25	25	25	1 80
21	Lambert	2	25	25	30	1 83
22	Maxwell	25	25	25	0	12 87
23	Queen	25	25	25	0	12 87
24	Apperson	25	25	0	30	14 94

Thursday's Gymkhana.

Pos.	Car	Average Race	Apple Race	Saber-ing	Teter-Board	Obsta-ble Race Points
1	Elmore	0	0	1	0	0 1
2	Overland	2	0	0	0	0 2
3	Buick	4	0	0	0	0 4
4	Ford	1	1	1	0	3 5
5	Mitchell	3	1	1	0	0 5
6	Knox	1	0	2	0	2 5
7	Oldsmobile	4	0	2	0	0 6
8	Moline	2	0	4	0	0 6
9	Stoddard-Dayton	4	0	1	0	2 7
10	Rambler	4	0	1	2	0 7
11	Diamond T.	6	0	3	0	0 9
12	Pennsylvania	9	0	2	0	2 12
13	Pierce-Arrow	2	0	0	23	0 25
14	Franklin	25	0	2	0	0 27
15	C-F	4	0	0	15	11 30
16	Autocar	2	0	0	30	1 33
17	Stearns	2	0	2	25	4 33
18	White	1	0	0	30	4 35
19	Lambert	3	1	0	30	1 35
20	Welch	0	0	3	30	4 37
21	National	5	3	1	30	0 39
22	Woods electric	4	0	5	30	0 39
23	Corbin	25	3	3	23	3 57
24	Pierce-Racine	25	25	25	0	3 78
25	Thomas Forty	8	25	25	30	0 88
26	Cleveland	7	25	2	30	25 89
27	Simplex	25	25	25	30	0 105

PARIS SORE OVER BAD BEATING.

PARIS, March 31.—There will be no glad hand, champagne, bouquets or official receptions for Brinker, Roberts, or whoever may succeed in piloting the Thomas Flyer to the French capital. Paris has received news of the American car's arrival at San Francisco and has not thrown its *bonnet rouge* into the air. It would be more correct to say that Paris has damned the New York-Paris tour, not in a polite, genteel, fashionable manner, but in that vehement style that is characteristic of the Gaul.

Godard has written home hair-raising accounts of the dangers and difficulties of a run to San Francisco. In wild language he tells his compatriots how the "peasants" have robbed and deceived him, how wicked they are and how they took advantage of his lack of knowledge of the country. The meager 24 horses under tricolor bonnet were insufficient in competition with the 60-horsepower of the American, and the trail of gold which the Yankee could scatter along the road appalled the Frenchman.

What Godard has to say does not influence the public very much, for there is a strong impression since some of the Pekin-Paris facts came to light that the French driver is not a very reliable individual. Georges Prade, editor of *Les Sports*, may be taken as a person holding a much more sober view of the situation, but he has to write that "the sole effect of New York-Paris has been to give the Americans an opportunity of proving that on American roads an American car is capable of meeting three French automobiles and scattering them all."

Says the Parisian editor: "The American car has triumphed because its ignorant, ill-equipped and unskilled rivals have had breakdown upon breakdown. The lesson of Pekin-Paris ought to have been sufficient for us; now it is New York-San Francisco, a defeat in the only country in the world in which French automobile commerce is increasing. At the bottom all the interest of the trip lies in this journey to San Francisco; afterwards it is a succession of boats and of journeys in British Columbia and Alaska, where there is nobody to see the competitors and where they can do no harm except to themselves. But a defeat in the United States—and defeat is but a feeble word—a defeat in which our best car is dead heat with the last, cannot but be deplorable to the name of France."

"I am certain that Motobloc and De Dion are not proud of the fact that they have been beaten by an American car that in this country we should place in the second class, by an Italian car which is not in the first rank, and to be dead heat at the rear with a German that has just entered the automobile industry. Happily the Grand Prix is coming, and the Thomas car is engaged in this great event. Then, I am certain, the American car will be brought down to its correct level. It is sad, however, to have to wait for the Grand Prix to save the French industry from the evil effects of the Round-the-World tour."

About the Alaskan Route.

The cars are to travel over the Government mail route to Fairbanks, down the Tanana to Fort Gibbon, and down the Yukon to Kaltag, across the trail to Unalakleet, and along Norton Sound to Nome. The distances are varied and some of the stretches will require extra fuel preparations:

To—	Miles	To—	Miles	To—	Miles	To—	Miles
Comfort Camp...	10	Creek.....	156	Clark's.....	334	Kofrine's.....	614
Workman's Roadhouse....	18	McMullin's.....	172	Piledriver.....	346	Malo's.....	640
Ptarmigan Drop....	26	Paxton's.....	188	Byler's.....	356	Kayukak.....	680
Beaver Dam....	34	Yost's.....	206	Johnson's.....	358	Nulato.....	700
Tiekhill.....	48	Casey's Cache....	216	Murray's.....	365	Kaltag.....	735
Ernestine.....	60	McDevitt's.....	223	White's Roadhouse.....	367	Old Woman.....	775
Tonsina Road-house.....	77	Parker's.....	237	Shakalik.....	835	Unalakleet.....	835
Willow Creek....	90	Donnelly's.....	249	Fairbanks.....	376	Baker.....	880
Copper Centre....	102	Tingley's.....	272	Chena.....	388	Bonanza.....	908
Taslinia.....	114	Little Delta....	293	Tolovana.....	444	Isaac's Point.....	948
Gulkana.....	132	King's.....	314	Baker.....	474	John Dexter's.....	1,008
		Munson's.....	324	Fort Gibbon....	534	Bluff.....	1,036
			383	Nome.....	584	Solomon.....	1,062

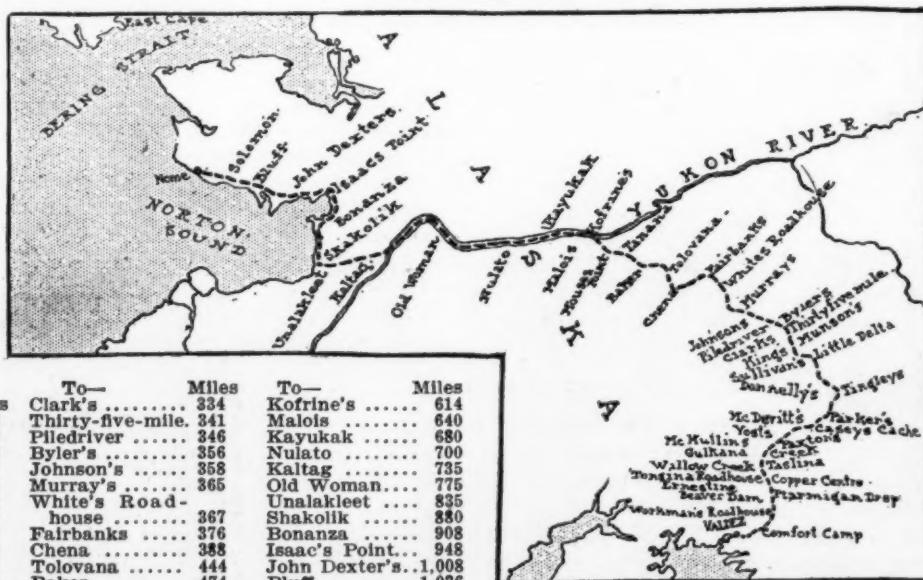
THOMAS FIRST ON ALASKAN SOIL.

SAN FRANCISCO, April 7.—By the arrival of the De Dion here, where they received an enthusiastic reception, the Frenchmen will be enabled to start on an equal footing with the Italians in Alaska. The Germans are in hard luck, having broken down again at Kelton, Utah, compelling a second return to the Union Pacific shops at Ogden, Utah.

Monday was a day of rest for all the participants in the New York-Paris automobile race, as the arrival of the Thomas on the *Santa Clara* at Valdez, the overhauling of the Zust at San Francisco, and the repairing of the De Dion and the Protos at Tulare, Cal., and Kelton, Utah, respectively, could hardly be called work, when compared with what the crews have been undergoing on the road. By reaching Alaska at this time, the Americans in the Thomas gain a full fifteen days' lead over their nearest competitors, the Zust crew, but as the latter cannot leave San Francisco until April 10, and cannot sail from Seattle until April 16, the De Dion will have an opportunity to get on an even footing with them, so that the Italian and the French cars will arrive in Alaska together. Two weeks at this season of the year may make a tremendous difference in the conditions in Alaska, and it remains to be seen whether the lead thus gained will be an advantage to the Thomas or not.

For a time it looked as if the German crew would have an opportunity to catch up with their Italian and French contemporaries and take the same steamer for Alaska, but they had the misfortune to break the differential at Kelton, Utah, which caused a delay of two whole days. They still have Death Valley to cross in their heavy car, and then the run up through California, either through the interior, as the Thomas and De Dion went, or along the coast, following the track taken by the Italians. The distance is 1,200 miles, which will mean at least eight days of traveling, so that there is no hope of the Protos leaving Seattle with the Zust and De Dion. But for its mishap between Los Angeles and San Francisco, which cost a day, the Zust crew would have been able to sail from Seattle April 8.

The cordial receptions that they have received at every point along the route since leaving the snows of Wyoming, not alone from their own countrymen, but from the entire population of every town passed through, have done much to encourage the foreign crews. They have had tremendous odds to contend against—conditions far worse than they had ever dreamt of, but a few days in a milder climate and the comparatively easy going of the last stretches of the transcontinental trip have sufficed to make all of them very optimistic, and they will begin the second installment of the race with renewed vigor.



Map of the Route Through Alaska.



Oldfield Trying Course with H. W. Whipple's Stearns.

BRIARCLIFF TROPHY RACE, APRIL 24, SURE.

There will be no postponement of the Briarcliff trophy race after all, despite the fact that some parts of the course were so deep last week as to be impassable. At a meeting of the entrants, held on Thursday of last week, at which 17 of the 20 cars nominated were represented, to discuss the situation, it was decided to go ahead with the contest on the date originally scheduled, April 24. It was pointed out that a month's delay would be very expensive to the concerns that had engaged crack drivers and prepared for elaborate training outfits that the race was originally intended to be a strenuous road rather than a mere speed test of cars and that the contest had been scheduled for April to boost early Spring trade. Besides assurances were forthcoming from the management that a big force of workmen could be put on the road so as to have it ready, not only for the race but for preliminary practice as well.

Entries were announced as finally closed with 22 nominations in all, four additional cars having been added to the list at the eleventh hour, a Simplex, named by C. A. Singer; a Benz, entered by Louis J. Bergdoll, of Philadelphia; a 40-horsepower Bianchi, entered by Percy Owen, Inc., the American representative of the Italian car, which will be handled on the course by Felix Prossen, and a 35-horsepower Renault, similar to the first car of the same make that has been listed, and which has been entered by Robert Guggenheim. It is not known as yet who the driver of the second Renault will be. The entries in full are:

Car.	Entrant.	Driver.
Hol-Tan	C. H. Tangeman	Hilliard
Renault	Paul La Croix	Bernin
Stearns	A. W. Church	Vaughan
Stearns	H. W. Whipple	Oldfield
Flat	E. R. Hollander	Cedrino
Isotta	J. H. Tyson	Strang
Isotta	C. M. Hamilton	Poole
Isotta	C. M. Hamilton	Harding
Stearns	F. B. Stearns	Leland
Allen-Kingston	A. Hammerstein	Campbell
Panhard	A. Massenat	Robertson
Lozier	H. A. Lozier	Mulford
Maja	J. J. Brown	Murphy
Flat	Joseph Josephs	Parker
Thomas	H. S. Houpt	Roberts
Apperson	S. B. Bowman	Lytle
Simplex	C. A. Singer	Watson
Benz	L. J. Bergdoll	Bergdoll
Simplex	C. A. Singer	Seymour
Bianchi	Percy Owen, Inc.	Prossen
Renault	Robert Guggenheim	

It was finally decided at this meeting to make the distance 10 laps of the course, or approximately 300 miles, and as it is not to be expected that the roads will be in the very best of condition, the running of the race will probably consume six hours. The event will be one wherein the skill of the driver will be a big factor, and victory may not go to the fastest car. The brash one may have his chances spoiled by eagerness and speed.

HOW TO REACH BRIARCLIFF COURSE.

By H. A. GRANT.

Probably every automobilist within range of the stock chassis race course at Briarcliff plans to be there on and before April 24. The writer lives but a few miles from the course, and has motored all over this section. Possibly, the following information may be of use to your readers:

I would say that in an article recently published, stating that the Harlem Railroad reached Briarcliff is an error. Briarcliff is reached by the Putnam Division.

To reach Briarcliff by automobile: From New York City follow up Riverside Drive to Kingsbridge, thence to Yonkers, Hastings, Ardsley, and Tarrytown. At Tarrytown, at the corner of Broadway and Main street, turn sharply to the right and follow the trolley tracks for about 200 yards; here the trolley line branches off through a cut. Continue along the road until you reach the summit of the hill and follow straight and *do not* turn to the left.

After descending a slight grade, you will cross the Putnam Railroad tracks; after crossing, follow along the shore of the lakes to East View, a small town situated on the course. At East View, I am informed, a grandstand is being erected. For particulars, inquire of Koenig Bros., Tarrytown, N. Y.

The race starts at Briarcliff. At East View, any one can direct you to Briarcliff, which is about six miles away.

To reach it by railroad: Those who go by train should take the Putnam Railroad at One Hundred and Fifty-fifth street. Get off at East View, where a stand is being erected, or at Briarcliff.

Another way to reach the course is to take the New York Central, Hudson Division, to Scarborough, and drive about two miles to the Briarcliff Inns. Unquestionably, these will be filled to overflowing, and, therefore, rooms should be engaged now.

The Harlem Railroad reaches Valhalla, a small station about a mile beyond White Plains. This brings you at a point in the course from which an excellent view can be had of the race.

There are other points, reached both by trolley and railroad, but the three mentioned above give the best hotel accommodations. Those who decide to witness the race from East View will find accommodations at the Florence House, Tarrytown, from which arrangements have been made to take people to the course.

CONNECTICUT WANTS VANDERBILT CUP RACE.

BRIDGEPORT, CONN., April 7.—At the annual meeting of the Bridgeport Automobile Club, held last night, F. T. Staples was elected president. The club is greatly interested in the effort to secure the Vanderbilt Cup Race for Connecticut. Highway Commissioner James B. McDonald was present at the meeting and stated that in his opinion Connecticut had the roads for such a contest. A. L. Riker was selected as chairman of a special committee to look into the matter of a course.



Maja Entrant on a Picturesque Briarcliff Stretch.

FIFTH ANNUAL A.A.A. RELIABILITY TOURING CONTEST

FRANK B. HOWER, chairman of the A. A. A. Touring Board, has promulgated the rules for the great national trade and pleasure run of 1908. Giving its new and official title, however—a matter of no little significance, by the way—it will be known as the "Fifth Annual Reliability Touring Contest of the American Automobile Association." It also includes the contest for the Charles J. Glidden trophy for touring cars, and the Hower trophy for runabouts.

It will start at Buffalo, July 9, and end at Saratoga, on or about July 24.

Entries will close with Chairman Hower at noon, July 3, at the Touring Board office, 760 Main street, Buffalo. The entry fee for each car is \$200 and must accompany its nomination. Numbers for the tour will be issued in the order of the receipt of the entries.

The rules for this year's contest, which were framed after consultation with and approved by manufacturers of various affiliations, embracing makers of different cars, present not a few noteworthy changes from those of last year, and to some considerable extent show signs of the rule-makers having given some heed to last year's criticisms and complaints.

The most radical innovation is that calling for a classification of the contesting cars by price, accompanied by a corresponding variation of the daily miles per hour scheduled for the different classes of entrants, for both the Glidden touring car and the Hower runabout trophies. Touring cars have been divided as follows:

- Class A.—Cars valued at \$3,500 and upwards.
- Class B.—Cars valued at \$2,500 and up to \$3,500.
- Class C.—Cars valued at \$1,500 and up to \$2,500.
- Class D.—Cars valued under \$1,500.

In the matter of time schedule requirements when the running time shall exceed 7 1-2 hours, the running time will be:

- Class B.—Will exceed that of Class A 15 minutes.
- Class C.—Will exceed that of Class A 30 minutes.
- Class D.—Will exceed that of Class A 45 minutes.

When the daily running time shall be less than 7 1-2 hours, the running time will be:

- Class B.—Will exceed that of Class A 10 minutes.
- Class C.—Will exceed that of Class A 20 minutes.
- Class D.—Will exceed that of Class A 30 minutes.

Runabouts have been divided as follows:

- Class A.—Cars valued at \$1,500 and upwards.
- Class B.—Cars valued under \$1,500.

When the daily running time shall exceed 7 1-2 hours, the running time of Class B will exceed Class A 15 minutes.

When the daily running time shall be less than 7 1-2 hours, the time of Class B will exceed that of Class A 10 minutes.

The running time will be posted the night before and each contestant must calculate his own schedule.

Another radical change lies in absolving cars detained by tire troubles from penalization for tardiness. Motors, however, must be kept running all the time the tire repairs are being made. If the motor stops or other work on the car be done, then there will be no raising of the penalizations.

This year official observers will have to be carried, who must make their reports each night. They will, to speak comprehensively, have to be identified with the entrants, if makers, as officials, employes or dealers. Non-trade entrants will also name observers for their cars, subject to the approval of the chairman. Observers will, of course, ride in makes of cars other than those entered by their nominees. They must remain with their cars at all times.

There will be no prohibition of a club making up its team of cars of a single make, as there was last year. A club

team must have at least three cars, but a club may enter several teams, if it so desires. This may add, it is easy to see, a factor of trade rivalry within a club.

Each entrant must be a member of the American Automobile Association. If a contender for the Glidden trophy, he must belong to a club affiliated with the A. A. A.; but if a Hower trophy candidate he need only be an individual member of the national organization.

Spare parts used in making repairs and replacements must have been carried on the car and included in the catalogue list submitted to the chairman. No repairs or replacements can be made at the night controls.

The acceptance of outside assistance in an emergency is covered by the following rule:

Where road conditions are so bad that a car cannot get sufficient traction to move, or is ditched, after reasonable effort has been made to extricate it, towing or other external means may be used to relieve the immediate distress only, but under no circumstances shall a car enter a night or any other control except under its own power. Where towing, or assistance from any external source has been received by the car, its observer must make a full and complete report, giving time, place, conditions, length of tow, and any other important details.

Candidate cars for the Glidden and Hower trophies will have to be given into the hands of the chairman at Buffalo 24 hours before the start of the contest for official examination and the checking of its list of spare parts carried.

The route will be marked as formerly by confetti: "Each day's tour will be preceded by a pacemaker's car, and any entrant or representative thereof who passes the pacemaker will be disqualified. If the pacemaker's car breaks down, or is compelled to travel at a rate of speed so slow as to impede the progress of the tour, his flag shall be transferred to the first car overtaking him, which car shall thereafter become pacemaker's car subject to the same conditions."

Provision is again made in this year's rules for a running off of any ties that may arise at the end of the Hower trophy competition.

The scheme of penalization is along the lines of that of last year. Each team is given an initial credit of 1,000 points. There is a penalization of a point for each minute or fraction thereof of tardiness at controls in excess of 2 minutes, and a point for each dollar or fraction thereof of value of parts used in replacements as per manufacturers' catalogues. These points of penalization are divided in each case by the number of cars constituting a club team.

Checking stations will be established along the route, but only so far as to prevent racing. Each driver will receive a card when checking out in the morning, which will name checking stations, so he can estimate his running time during the entire day.

Thos. Cook & Son will again have charge of hotel arrangements. Each entrant will have to take care of and handle such baggage as he and his guests may need.

"GOOD ROADS" HOOPER "PENNSY" PRESIDENT.

LANCASTER, PA., April 4.—At the annual meeting of the Pennsylvania Motor Federation, held at the Hamilton Club, this city, Saturday last, Robert P. Hooper, chairman of the A. A. A. good roads committee, and treasurer of the Automobile Club of Germantown, was elected president for the ensuing year. The other officers chosen are: Dr. S. T. Davis of Lancaster and Peter A. Meixell of Wilkes-Barre, vice-president, and Paul C. Wolff of Pittsburg, secretary and treasurer. Norristown and Williamsport clubs were elected to membership. Twenty clubs now belong to the federation. Over 2,000 members are now enrolled.

THE POWER AND SPEED OF RACING CARS

BY HERBERT L. TOWLE, MEMBER SOCIETY OF AUTOMOBILE ENGINEERS.

A SHORT time ago a case was tried in New York City, which concerned a racing car of high power, for which the defendant in the suit had refused final payment on the ground that the car had failed to perform as expected. It fell to the lot of the present writer to analyze the more prominent features of design in the car in dispute, and determine whether or not they could be made satisfactory without radical reconstruction.

The car had made no sort of a speed showing under test, and one reason for this, which would have been enough even had the car been otherwise perfect, was found in the gear ratio. The motor was asserted by its designer to be capable of developing considerably over 250-horsepower. It might, in reality, have gone as high as 120- or even 150-horsepower, if the crankcase had not cracked, and if the camshafts had not been so light and springy as to demoralize the valve timing. But the rear wheels, which were 34 inches in diameter, were geared to make two turns to the engine's one. In other words, the engine had to overcome a leverage (even neglecting gear losses) double that against which it would work with 1-to-1 gearing; and at the

step further, and show how the right gear might have been determined without great labor or experiment, and using only data available to the designer when the car was built, a year and a half ago. Since that time, record performances have been made which make the selection of a proper gear somewhat easier; but, so far as the writer knows, no quick method of calculation has been pointed out which is of general application. Therefore, the method used by the writer in the above connection seems to be of interest. It is based on the determination of tractive effort—i.e., road plus wind resistance, or the equivalent of the drawbar pull of a locomotive.

Power is the product of force and velocity. The tractive effort in pounds, multiplied by the car's velocity in feet per minute and divided by 33,000, is the horsepower developed at the rear wheels. This power, plus that lost in transmission, is the brake power of the motor at that speed. This neglects slip, but for beach work that is not material.

According to data, for which the writer is indebted to Thomas J. Fay, the net mean effective pressure of a motor of

POWER, SPEED AND TRACTIVE EFFORT OF CARS AT ORMOND, JANUARY, 1905.

Name of Car.	Cylinders	Bore	Seconds Per Mile	Miles Per Hour	H.P. ^a if Piston Spd. = 1,100 ft.	H.P. ^b if Piston Spd. = 1,000 ft.	H.P. ^a × K.	H.P. ^b × K.	Tractive Effort (a)	Tractive Effort (b)
					M.E.P. = 67 lbs.	K = 75%				
Bowden's Mercedes.....	8	5.75"	32 4/5	109	117	106	88	79.5	302	273
W. K. V., Jr., "90" Mercedes ('04).....	4	6.67"	39	92.5	78	71	58.5	53	237	215
Wallace, "90" Fiat.....	4	6.5"	39 1/5	92	74	67	55.5	50	226	204
Stevens, "90" Mercedes.....	4	6.67"	39 2/3	91.5	78	71	58.5	53	240	217
Hawley's "90" Mercedes.....	4	6.67"	40 2/3	89.2	78	71	58.5	53	244	223
W. K. V., Jr., "90" Mercedes.....	4	6.67"	42 1/5	85.5	78	71	58.5	53	257	233
Sartori, "90" Fiat.....	4	6.5"	45 1/5	80	74	67	55.5	50	260	235
Brokaw's Renault.....	4	5.9"	45 2/5	79.5	62	56	46.5	42	217	193
Vaughn, "40" Decauville.....	4	5.12"	48 1/5	75	46	42	34.5	31.5	175	157
200-h.p. Darracq ('06).....	8	6.67"	29 2/5	122.44	156	142	117	106.5	357	325
Croker's Simplex.....	4	6.5"	.....	86	Actual H.P. 66		49.5		216	

For piston spd. 1,000 ft. per min.: $H.P. = \frac{D^2 C}{2.5}$. C = No. of cyls.

K is transmission efficiency. T is tractive effort. 1 H.P. @ 1 mile per hr. = $\frac{33,000}{88} = 375$.

highest velocity which the car could be expected—even by its designer—to attain, the engine speed would be far too low to permit developing the maximum power.

Let us illustrate by supposing a case: At 80 miles per hour, on level macadam, a car having side chain drive shows a rear wheel slip of about 3 or 4 per cent. On the beach (for which the above car was designed) the slip and rolling resistance are both less, the same gear giving a car speed of about 86 miles an hour. Allowing, in round numbers, 2 per cent. for beach slip, a 34-inch wheel makes 600 turns in one mile. At a mile a minute, this would be 600 r.p.m., and at two miles per minute 1,200 r.p.m. With the 1-to-2 gearing described, the engine would make 300 and 600 r.p.m. in the two cases. But an engine having a stroke between 6 and 7 inches should run between 1,000 and 1,100 r.p.m., having due regard for risk of breakage due to piston inertia; so that the power actually developed would not suffice to drive the car at the highest speed. The designer of the car stated in his testimony that he expected to achieve a speed of 150 miles per hour; but at that speed the engine would run only 750 r.p.m., and would develop, at best, three-fourths of its maximum power. As a matter of fact, it would evidently fail to drive the car anywhere nearly as fast as it might with proper gearing, or the balance between driving torque and road plus wind resistance being struck at some extremely moderate speed.

It was not difficult to show that the gear ratio chosen by the designer was farcically incorrect; but it was desirable to go a

racing dimensions—that is, the indicated M. E. P. multiplied by the mechanical efficiency of the engine—cannot be relied on to exceed about 67 pounds to the square inch. In moderately-sized motors—say, below 5 inches bore—higher compression is feasible, bringing the net M.E.P. up to 70 or 75 pounds. A handy formula is:

$$H.P. = \frac{D^2 L R C P}{1,008,500} \text{ in which}$$

D is piston diameter in inches.

L is stroke in inches.

R is revs. per minute.

C is number of cylinders.

P is net M. E. P.

Assuming a piston speed of 1,000 feet per minute, and 67 as the value of P, this formula leads directly to the A. L. A. M. formula

$$\frac{D^2 C}{2.5}$$

For a piston speed of 1,100 feet per minute, we have

$$H.P. = \frac{D^2 C}{2.27}$$

The power developed by any racing motor, or certainly any motor built between two and four years ago, is likely to fall within or very close to the values given by these formulas. It is true that the powers thus calculated often fall considerably

short of the reputed power of particular motors, but that need not worry us, particularly in connection with the present subject. It was quite a common fault with the motors of a few years ago to disappoint their designers in this respect.

An Analysis of the Florida Speed Efforts.

Nearly all the best speed records at Ormond Beach were made in January, 1905. A few were made in 1904, and in 1906 the eight-cylinder Darracq put the highest mark for a gasoline car at 122.44 miles per hour, where it has since remained. All but the last of these records were made before work on the racing car above mentioned was begun. The cylinder dimensions of most of these cars had been published, and it was, therefore, easy to calculate their approximate horsepowers by the above formulas, assuming 1,000 and 1,100 feet per minute piston speed. From these the power developed at the rear wheels followed by deducting a suitable percentage for transmission losses. So far as the writer is aware, no reliable published data were available two years ago on transmission losses, but 25 per cent. appears a fair average. So long as similar cars are considered, its precise value is not important, since its only effect is to scale all the computations up or down alike and on that account it is not at all necessary to take it into consideration in the present connection.

From the best speed of the car, and the computed horsepower at the rear wheels, the tractive effort was obtained by the formula:

$$T = \frac{375 \times H P \times K}{Miles per hour} \text{ in which}$$

T is tractive effort in pounds.

H P is engine brake horsepower.

K is transmission efficiency, or 75 per cent.

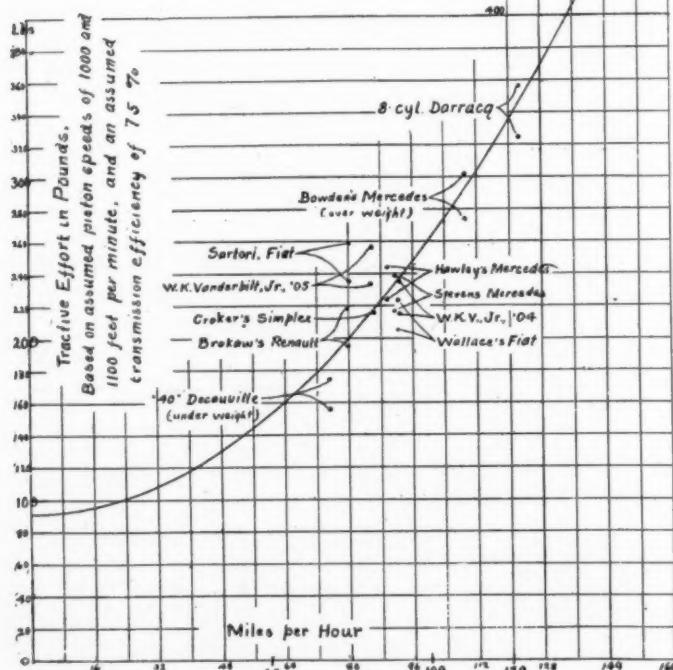


Fig. 1.—Relation between tractive effort and speed of standard racing car.

This formula is derived as follows:

One mile per hour is 88 feet per minute.

Tractive effort for 1 H P at one mile per hour is $\frac{33,000}{88}$

or 375 pounds.

Obviously, the tractive effort as thus derived is actual only if the motor actually developed the full power called for by the

formula. If the motor was not perfectly tuned up, or if it was overgeared, the car would run slower than it should, and the apparent tractive effort, being in inverse ratio to the speed, would be correspondingly greater than the actual. Similarly, a motor exceptionally well tuned, or speeded to run faster than usual, would result in a higher car velocity; but this higher velocity, though in reality accompanied by increased tractive effort, would not appear thus on calculation, since the formulas take no account of unusual M. E. P. or engine speed. On the contrary, the apparent tractive effort would be less instead of greater. For this reason, the method is only safe as a means of obtaining averages from a considerable number of cars. When thus used, however, the apparent tractive efforts may be plotted, and a curve drawn, which will fairly represent the speed and tractive effort for any new case.

The above process was followed for the cars enumerated in the table. It will be seen that for the Mercedes and Fiat cars, which preponderate, the apparent tractive efforts lie very close together in the diagram. In all cases the tractive efforts have been calculated for both 1,000 and 1,100 feet piston speed. Of the cars which lie conspicuously outside the curve, two—the Fiat, driven by Sartori, and W. K. Vanderbilt, Jr.'s Mercedes, in 1905—were evidently not working at their best. The third, the Decauville, was about 700 pounds under the racing weight to which the others closely conformed, and its very low tractive effort is thereby explained.

A curve of tractive efforts was first sketched in by hand, and then was found by trial to conform very closely to the formula:

$$T = .035 W + .0017 A V^2, \text{ in which}$$

W is a total weight of car and driver, taken as 2,600 pounds.

A is front area of car and driver, taken as 10 square feet.

V is velocity of car in miles per hour.

The first expression of the formula represents the road resistance, the second the wind resistance. The coefficients, of course, are subject to change, but for average conditions, as represented by cars of Mercedes form, the curve seems to fit quite closely. As finally drawn in, it represents the formula accurately. It will be noted that the Simplex, driven by the unfortunate Frank Croker, appears in the diagram very close to the curve. I am told by Mr. Fay, the designer of that car, that it actually developed the horsepower and speed credited it in the table, so that it gives a good check on the correctness of the curve at that point.

A Curve of Tractive Efforts for Universal Use.

We thus have a curve to which we can determine approximately the performance and required gear ratio of any racing car of standard type. Suppose we have an eight-cylinder motor of six inches bore and stroke, designed to stand a speed of 1,200 r.p.m. and develop its full torque at that speed. This is 1,200 feet piston speed, or one-fifth greater than the A. L. A. M. formula assumes. The power, therefore, will be:

$$H P = \frac{D^3 C}{2.5} \times 1.2 = 138.$$

At the rear wheels it will be $138 \times .75 = 103$.

By our formula:

$$T = \frac{375 \times 103}{Miles per hour} = \frac{38,600}{M P H}$$

This enables us to determine the speed at once by applying trial calculations to the curve. Thus for 110 miles per hour, the tractive effort required by the curve is 296 pounds; that obtained by calculation, 350. For 120 miles per hour, we have 335 pounds required, and 321 available. For 118 miles per hour, we have 328 required, and 327 available. Therefore, 118 miles per hour will be our speed, representing 1180 revs. per minute of the wheels. This is so near the engine speed that it may not be worth considering, but if the driving bevel could be made one tooth smaller than the driven, to permit the engine to turn a very little faster than the wheels, some advantage might be

gained; or the difference could be adjusted between the gears and sprockets.

Up to this point we accomplish little by the method proposed that might not be more directly reached by a simple horsepower speed curve, such as may readily be constructed from the curve of tractive effort (See Fig. 2). Working on the tractive effort curve, however, has two advantages. It separates clearly the driving force required to overcome wind resistance from that absorbed by the beach itself. The latter works out by the formula to about 90 pounds for cars weighing 2,600 pounds complete; and, so far as the writer is able to learn, this is not far wrong. By separating these two elements in the total resistance, we are able readily to adapt our calculations to cars of other than the Mercedes-Fiat weight and front area.

The second advantage of using the tractive effort curve is that it enables us to ascertain at once,

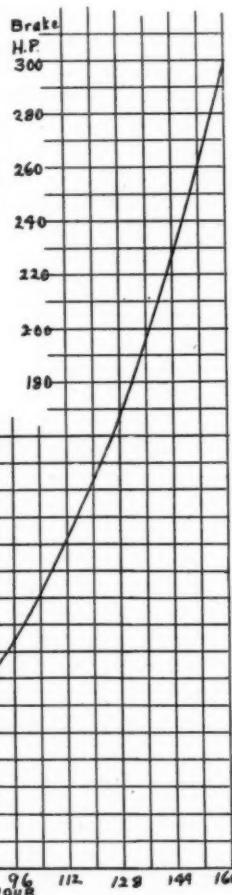


Fig. 2.—Relation between motor horsepower and speed of standard racing car.

within close limits, the speeds obtainable with incorrect gear ratios. In doing this, it is only necessary to know how the M. E. P. developed by the engine at the car's actual speed compares with that expected under correct conditions. If there be no material difference, we simply calculate the mean torque developed by the engine, multiply it by the product of the mechanical efficiency and the gear ratio, and divide by the rear wheel radius, thus obtaining the tractive effort. From this, the attainable speed with that gear ratio follows at once by the curve.

To illustrate this point, let us assume the eight-cylinder 138-horsepower motor, above supposed, has been geared to make 8-10 of a revolution to one turn of the rear wheels. One horsepower at 1,200 r.p.m. giving a torque of:

$$\frac{33,000 \times 12}{1,200 \times 2 \times 3.1416} = 52.5 \text{ inch-lbs.}$$

Therefore, a motor developing 138 horsepower at that speed will exert a torque of $52.5 \times 138 = 7,250$ inch-lbs. Multiplying this by 75 per cent. and dividing by the wheel radius (17 inches) and gear ratio, we have

$$\frac{7,250 \times .75 \times .8}{17} = 256 \text{ lbs. tractive effort.}$$

17

On the curve, Fig. 1, this corresponds to a speed of about 98 miles an hour, as against 118 for the correct gear. At that speed the motor would be running $980 \times .8 = 786$ r.p.m.

If the motor be undergeared so that it makes 1.2 revolutions to one turn of the rear wheels, we shall have

$$\frac{7,250 \times .75 \times 1.2}{17} = 383 \text{ lbs. tractive effort.}$$

This indicates a velocity of about 133 miles per hour, provided the motor maintains its torque at the excessive speed—1,600 r.p.m.—which it will have to develop, and provided it does not break down somewhere from the violence of the piston inertia forces, which augment as the square of the speed, and are, therefore, 78 per cent. greater at 1600 r.p.m. than at 1,200 r.p.m.

To illustrate further, let us suppose that the engine which figured in the lawsuit above mentioned had been able to give 120 horsepower at 1,000 r.p.m. This represents a torque of 7,570 inch-pounds. Assuming a transmission efficiency as high as 75 per cent., despite the adverse gear ratio, we have:

$$\frac{7,570 \times .75}{17 \times 2} = 167 \text{ lbs. for } 34 \text{ inch}$$

wheels. This tractive effort will give a speed of only 67 miles an hour, at which the engine speed would be but 335 r.p.m. At that speed the torque would probably be considerably below the normal, which would cause the actual speed to be still less. If the actual torque were 20 per cent. below the maximum, the tractive effort would be $1,674.8 = 124$ lbs., representing a car speed of 50 miles per hour. What the torque really was can only be guessed, as the motor was never tested; but the retarding effect of an excessively high gear is plain.

It will be noted that calculations, which do not assume some definite speed for the motor, but aim only to ascertain what car velocity can be attained with a certain gear ratio, cannot be made from the horsepower-speed curve, since the horsepower which will be developed is not known. On the other hand, if we arbitrarily fix the engine speed, we thereby fix its power, and can, therefore, determine the proper gear ratio from the car speed given by the power-speed curve.

To show their character, the curves of tractive effort and horsepower have been extended to their values for a speed of 160 miles per hour. At the present time, any such speed is merely speculative, and calculations regarding it must await the confirmation of practice. However, it is of interest to note that 527 pounds, the calculated tractive effort for 160 miles per hour, is close to the slipping point for rubber tires on macadam, assuming average weights on the rear wheels of racing cars. Apparently, therefore, that speed is near the theoretical limit unless rear wheel weight be increased. From the horsepower required, it is evidently quite close to the practical limit likewise.

CONCERNING SHAFT VERSUS CHAIN.

Inch by inch, or, perhaps, it would be better to say link by link, chains are giving way in the battle for transmission supremacy abroad, says *Motor Talk*. Chains may well cry to be saved from their friends, for verily some of their champions treat them most shamefully. Too much confidence in the chain's durability and efficiency leads apparently to the most disgraceful neglect. If driving chains had no more important duty to perform than to keep a dog in his kennel, there would no fault be found with their neglect; but where is the sense, I should like to inquire, in paying the most elaborate attention to one end of the car—the motor end—timing the valves to half a hair-breadth, finishing off the valve seats with crocus powder, etc., and then leaving the chains to grind themselves to pieces in all the grit and mud they can collect? Power microscopically conserved in one place only to be wasted in the most uncalled-for manner at another! There cannot be so very much power lost, say the wise ones, otherwise chains would wear out quicker. Such wiseacres cannot appreciate the difference in efficiency between a new chain and one that is stretched out of pitch. In fact they hardly know what pitch means, except in the vaguest kind of a way, until some day the chain mounts the teeth and crumples up a stay rod.

COMPARING AMERICAN AND FOREIGN LIGHT CARS

By G. H. GODLEY.

TO the American observer, one of the most striking features of the English and French trade is the great demand for small four-cylinder cars of from 12 to 20-horsepower. These cars form a distinct class, and by no means an unimportant one, which is almost entirely unknown here. They are, in the main, designed along the lines of standard touring cars of higher power, but often a surprising amount of ingenuity is shown in the simplification of details.

These motor cylinders are cast either separately, in pairs, or *en bloc*, with a pronounced tendency toward the last method. The Darracq has the four cylinders, and their inlet and exhaust piping all in one casting. Magneto's form a part of the regular equipment on many cars, and provision is made for them on practically all the others. Air-cooling is unknown, but in some cases the water-cooling system has been simplified by the omission of the pump, the water circulating naturally, and often the radiator fan has been dispensed with also. Clutches are of different patterns, cone types being rather in the majority, with the multiple disc a close second, but there are also a number of special designs. Change gears are sliding with three forward speeds, often selective. Drive is almost invariably by shaft and live axle. Some makers, on account of the excessive cost of the drop-forged I-section front axle, have adopted a built-up design formed of two channel sections riveted together, back to back. Frames are usually pressed steel, carried on semi-elliptic springs in front, and either semi-elliptic, three-quarter, or platform springs in rear. The dimensions of a number of representative cars are given in the following table:

Name	H.P. by Formula	Bore and Stroke	Wheel-base	Tires	Chassis in London
		mm.	In.	In.	£
Argyll	14-16	.20.1	.90 x 120 mm 1004	.810 x 90	.325
Darracq	14-16	.17.9	.85 x 100	.760 x 90	.335
De Dion	12-14	.14.0	.75 x 100	.810 x 90	.330
Gladiator	12-14	.15.9	.80 x 110	.810 x 90	.325
Gregoire	10-14	.15.9	.80 x 110	.810 x 90	.304
Gregoire	16-20	.20.1	.90 x 120	.103. { 875 x 105, front 880 x 120, rear } .400	
Horbick	12-16	.15.9	.80 x 90	.810 x 90	.300
Humber	10-12	.17.5	.84 x 95	.102. { 760 x 90 with body	.250
Mors	10-14	.15.9	.80 x 90	.102. { 820 x 90	.350
Panhard	10-15	.15.9	.80 x 120	.112. { 870 x 90, front 880 x 120, rear } .400	
Renault	10-14	.14.0	.75 x 120	.107. { 800 x 85, front 810 x 90, rear } .410	
Scout	15	.20.1	.90 x 115	.112. { 810 x 90	.355
Unic	16-20	.18.7	.87 x 110	.118. { 810 x 90	.415
Vulcan	14	.19.6	.34 x 44"	.102. { 810 x 90	.315
West-Aster	14-16	.17.5	.84 x 110 mm 102	.810 x 90	.345

The only American cars which would come in this class are the 16-horsepower Franklin and the 16-22-horsepower Thomas town car—both too well known to need description.

American Makers Have Developed Horizontal Type.

Instead of this type, American manufacturers have developed cars with two-cylinder horizontal opposed engines, placed either under the seat, with center chain drive, or in front, with shaft drive. It is true that these cars are usually considerably cheaper than the foreign cars listed above, the prices of the American type varying from \$1,250 to \$1,500, while the foreign type, after a body had been fitted, would average over \$2,000. There is one significant exception, however—the Humber. This car has a very wide reputation in England, and is undoubtedly of the very best construction throughout, yet by standardization and manufacturing in quantities its makers have been able to sell it, complete, with touring body, at £250, equivalent \$1,215. I take this to be sufficient proof that American manufacturers of small cars could do the same if they desired to replace their two-cylinder models by four-cylinder ones.

The question then stands: Which of these two types would be preferred by the average man about to spend \$1,250 on a car? There are several considerations on both sides. In the first place, the two-cylinder has comparatively large cylinders, with much less wall surface than a four-cylinder of the same

piston displacement. They also run at a lower speed. Consequently, other things being equal, the two-cylinder is the more economical, both in fuel and oil. If batteries are used for ignition, it is also more economical in current. Of course, no estimate can be made of the actual saving, but it would certainly be very noticeable on a monthly bill.

On the other hand, the four-cylinder car has the advantage in both silence and smooth running. Two-cylinder cars have made wonderful improvement in this respect, but from their very nature they can never hope to equal the four-cylinder. Another advantage of the latter is the use of shaft drive instead of center chain. A number of two-cylinder cars are now built with motor in front and shaft drive, but with a good-sized engine the narrowness of the available space makes necessary a very short stroke, with consequent loss of the efficiency and economy of this type. Further, the removal of the engine from under the seat allows the body to be hung much lower; this, together with the increased wheel-base, makes a great improvement in appearance and comfort. The old fallacy, that a short wheel-base, and high, full elliptic springs are peculiarly adapted to American conditions, has long been exploded.

Necessity for Simplicity Is Self-evident.

As cars of this size are almost invariably driven by their owners, they must be as simple and easily cared for as possible. This condition seems at first to favor the two-cylinder. However, the horizontal opposed engine is, by its nature, spread out over three or four feet of space, with many long pipes and wires, which even the best designing cannot keep straight and clear. The new four-cylinder engines, on the other hand, and especially those *en bloc*, are so neat and compact that they seem much simpler than the others, while pipes and wires are remarkable chiefly through their scarcity. When the hood is lifted, the four spark-plugs stand up in a row, ready to the hand, instead of one being under the footboard and the other under the tonneau.

The choice lies, then, between economy of fuel and oil on the one side, and comfort, appearance and accessibility on the other.

Economy is doubtless an important consideration, but here it is outweighed. The day has passed when an automobile of any sort whatever was sufficient to glorify its possessor. The business man who has \$1,250 to invest in an automobile wants one which will compare in style and comfort, if not in speed, with the more expensive ones, and he will not haggle over 10 per cent. on his gasoline and oil bill.

The two-cylinder horizontal opposed engine is now finding its proper field in the auto-buggy, and I think it is a pretty safe prophecy that it will soon die out in the touring car. And, meanwhile, there is a great opportunity for the manufacturer who does in America what Argyll, Horbick, Humber and others have done in England.

STEADY INCREASE IN AUTO EXPORTS.

Government statistics for the month of February, 1908, compiled by the Department of Commerce and Labor, show that 213 complete automobiles of a value of \$368,309, were sent out of the country, as compared with 151 cars of a value of \$301,240 for the same month a year previous. During the same periods, the value of the automobile parts exported reached \$75,394 in 1908, and \$47,124 in 1907. For the period of eight months ending with February in the years 1906, 1907 and 1908, the total values were \$1,771,313; \$2,873,246 and \$3,061,823 respectively. The most striking feature of the February, 1908, report is an increase of more than 100 per cent. in the value of the cars exported to Italy, although France also shows an increase of about 12 per cent., and other European countries are taking American cars.

LETTERS INTERESTING AND INSTRUCTIVE

QUERIES ON A NUMBER OF TOPICS.

Editor THE AUTOMOBILE:

[1,290.]—I write to you for information in regard to an article on "The Rubber-Knobbed Tire," by A. E. Morrison. Would write to him direct, but do not know his address. Who are the manufacturers of this tire, and is it in general use? Would like the editor's opinion concerning its durability.

How should one make a test to show the amount of current being consumed in operating coil? By placing the ammeter between the screw at base of trembler and the upright holding adjusting screw, thus cutting out the trembler, I find the ammeter always reads the same as is shown in testing the cells, so conclude it is not the correct method. My machine consumes an enormous number of cells. Placed another coil on it, but the tremblers on the new coil were so stiff that none but brand new cells seemed able to operate it at all, and these only in a very imperfect manner. Would it be advisable to grind down or weaken these tremblers, or is it probable that the trouble lies in the internal construction of the coil, which is so made that each unit contains two cores, i.e., two primary and two secondary windings?

Should not an exhaust valve seat more than 1-16 inch on the valve seat? The valve has nearly 1-4 inch bevel, but seats only on the very edge, and I am able to get but little compression in the corresponding cylinder, although cylinder wall and piston is in good condition. It looks to me like faulty construction, but the makers of the machine will give me no satisfaction. I have been told by repairmen that a larger valve will have to be used and a new seat bored, since the small valve has ruined the old valve seat.

Is there on the market any cable dressing which will prevent the cables of a cable-driven machine from slipping? The makers of the machine guarantee in their catalogue that the cables will not slip, but this is not true, as the makers well know, for they have printed instructions to send owners of their machines, when they begin to kick, telling them to sprinkle cables with ashes or rosin—a pleasant pastime on a muddy road.

Glyndon, Minn.

L. M. LOWE, M.D.

We are under the impression that what Mr. Morrison had in mind is what is known as the "Bailey tread," the shoe of the pneumatic tire being molded in series of round, flat-topped projections, which give it a better grip on the road, particularly where the surface is slippery. Quite a number of the tire manufacturers list tires with these treads.

Connect the ammeter in series, i.e., simply disconnect the primary wire leading from the battery to the coils and place the ammeter in the gap thus made, connecting the wire to one of its terminals and touching the coil terminal with the connection of the instrument. The motor should be running while the test is being made, as a test made with the motor stopped is no indication of what the consumption may be. A properly designed and adjusted coil should not require more than .5 to .7 ampere to operate it. Write the makers of the coil for information, stating the nature of your trouble, as each type has its peculiarities.

We believe it is customary to make exhaust valve seats at least 3-16 to 1-4 inch wide. It looks to us as if the repairman's diagnosis was correct. There are numerous dressings on the market, intended to prevent leather belts from slipping, but we do not know that there is any compound of this kind that is made for the same purpose where cables are concerned.

FURTHER DATA ABOUT A MOTOR.

Editor THE AUTOMOBILE:

[1,291.]—In using the dimensions stated in letter No. 985, in your issue of November 28, 1907, will you please tell me what the compression would be, and also the horsepower and the speed of the engine?

F. BALL.

Worcester, Mass.

Assuming the combustion chamber to represent 30 per cent. of the total piston displacement of the motor in question, the compression (gauge pressure) would be slightly over 70 pounds to the square inch, or about 85 pounds absolute. The indicated horsepower would be 20 in round numbers and the speed 1,500 r.p.m.

EXPLANATIONS ARE NOW IN ORDER.

Editor THE AUTOMOBILE:

[1,292.]—Kindly explain the following, which strikes me as very peculiar and somewhat disconcerting to the fellow who is just trying to find out. About a year ago I bought an ammeter of French make, which reads up to three amperes, by tenths. I have used this when adjusting the coils on my car, adjusting each unit until it showed .7 ampere. Running the engine would show a consumption of .4 ampere. That to me was satisfactory, the engine ran well and I got good long life from my dry cells.

Some weeks ago I loaned my ammeter to a friend. He used it in adjusting his coils, and was so well pleased that he spent some of his good money and bought a similar meter. This was of American make, and showed 4 amperes also by tenths. He took this home and was surprised to find that the adjustment which showed, under continuous current, .7 ampere with the French meter only showed .5 with the American. He brought the meter to me and my results were the same, and on my car when the engine was running the French meter showed .4 and the American .25. Note that in every case the American meter showed the lowest consumption.

Now comes the surprising part of my story. Being anxious to know which meter was more nearly correct, I carried both into a well-known electrical supply house and asked if they could test them for me. They were very obliging, and made a test in my presence, which showed, in amperes:

Their Standard	The French Meter	The American Meter
1.00	1.00	1.25

This was very good for the French meter, but reversed the position of the two, making the American read the higher. This did not satisfy me, so I took both meters to a well-known manufacturer of electrical meters and had him make a test. His results were as follows:

Standard	French	American
1.00	.85	1.10
2.00	1.80	2.30
3.00	2.80	3.50

This also makes the American meter read the highest.

The voltage on my car comes from four dry cells in series, and as they have now been in use for some time it probably does not exceed five. The first test was made by using one dry cell (fresh) and was probably one and one-half volt. The second test was made with (I believe) one-half volt. I mention these as they may have had some bearing on the matter.

However, I am "all at sea" and will appreciate any explanation which may come to hand through "Letters Interesting and Instructive" as to why the meter showing the higher reading under test shows the lower reading in actual service.

New York.

"FOUR-CYLINDER SAL."

Assuming that tests of the different ammeters were always made under the same conditions, which was doubtless the case, we must confess ourselves to be equally "at sea," and, accordingly, invite explanations from those of our subscribers who think they can throw any light on the subject.

A CHANCE FOR MAKERS TO EXPRESS OPINIONS.

Editor THE AUTOMOBILE:

[1,293.]—If I may have the necessary space in your next issue, I should like to ask the following questions of the various automobile manufacturers and others:

First: I should like to have some of them inform me as to why it is that there are not more of the high grade cars driven by air-cooled engines? Is it a case of prejudice, precedent, or inability to see the good and efficient work done by the greater part of the air-cooled automobiles now on the market? I realize that it would be hard to convince the entire buying public of the good features of the air-cooled engine, or any other entirely new feature of construction, for any given make of car all at once, but if some half-dozen or more manufacturers of high grade water-cooled cars would put out an air-cooled engine as an option, and push that option, it would not be a great while before the major portion of the cars sold would be equipped with air-cooled engines.

I should like to hear from some of the manufacturers of high grade cars as to their views of the matter. FRED B. FAY.

Worcester, Mass.

The frequency with which "air-cooled" questions have come to light within the past few weeks leads us to place the following opinion on record, and we trust that manufacturers of air-cooled cars will correct us, if necessary, or supplement it by their

April 9, 1908.

own views. In reality, the following is a statement of fact, and not merely an opinion. The air-cooled car has shown itself to be eminently practical, highly efficient, more economical in fuel consumption than the water-cooled type and fully as reliable as the latter. A great number of the victories in automobile contests held in this country stand to the credit of air-cooled cars. Regarding the prevalence of the water-cooled type, we think the matter can be most easily explained by the fact that the average manufacturer of automobiles is in business to make and *sell* cars, and though he may have very decided opinions of his own, he is quite willing to make what the public wants. In other words, it appears to be more difficult to sell air-cooled cars, and makers generally prefer to work along the line of least resistance rather than undertake an expensive educational campaign. The water-cooled car was already on the scene in numbers before the air-cooled began to make any impression, so that the former became the fashion, and its sway is hard to dispute. This is doubtless a basis of what may be termed a prejudice against it. Because A, B and C have bought water-cooled cars their friends do likewise, and, as the owners of air-cooled cars are in the minority, their influence is not so far-reaching. The air-cooled motor needs no defenders, as its record speaks for itself.

POOR WORKMANSHIP DECREASES EFFICIENCY.

Editor THE AUTOMOBILE:

[1,294.]—I am a subscriber to your valuable paper, and would like to have the following answered in "Letters Interesting and Instructive": Would it make any material difference in a two-cylinder opposed motor of 18 to 20-horsepower if, through imperfections in workmanship, the pistons did not come up into the explosion chamber within 1-8 of an inch of where they were originally designed to? I hold that it would, but my foreman says it would not. Which is right?

Also, I would like to ask about the Renault device for starting from the seat. As far as I could see from cut in the March 12 issue of "The Automobile" there was no provision made for backward motion of the shaft. Should think in that case that the motor would do considerable damage in case it should backfire.

A. K. W.

This would lower the compression of the motor according to the ratio that the distance in question bears to the length of the combustion chamber, as originally designed. It may be that the loss is actually negligible in the motor you speak of, though a brake test would quickly reveal it. Very small errors of construction are fatal to the efficiency of a motor when they affect its compression. Your foreman must have a very peculiar idea of the principles of the internal combustion motor, as if 1-8 inch loss would have no effect whatever, it would follow logically that any amount of error here would not reduce the motor's efficiency, and it would work equally well even if there were one or more inches added to the length of its combustion chamber, regardless of the designer's ideas in the matter. It may be that the dimension in question strikes him as being so small that it could not have any appreciable effect, one way or the other, but in a small, high-compression motor, such as is used on a motorcycle, it would mean a loss of fully 10 per cent., or more.

You evidently did not read the description of the Renault self-starting device very closely, as it reads, in part: "The pinion G, the rotation of which commands the crankshaft, is provided with a free-wheel ratchet device, shown in the separate drawing." This provides both for the disengagement of the self-starting device when the motor gets under way, and for taking it out of engagement should the motor "backfire."

IS ANYTHING GAINED BY USING HOT AIR?

Editor THE AUTOMOBILE:

[1,295.]—Please answer the following, through your "Letters Interesting and Instructive": I have a Schebler Model F carburetor which can be heated by the exhaust by putting on some pipe. Is anything gained by heating the mixture while passing from the carburetor to engine in cold or warm weather?

I would say in regard to letter No. 1,218 that I have had trouble

much like he has. To overcome it I put several thin pieces of leather between the float and the lower end of lever to which the float is fastened, so that it does not allow the gasoline to raise so high. Care must be taken that the float does not touch on sides of the float chamber. I also lowered the gasoline tank and raised carburetor, and everything is working right now. Have had no trouble with the carburetor since.

Could you tell me if a car registered in Alberta can tour in Montana and North Dakota without going to the trouble of registering in each State? If you have the laws of these States, please give most important parts in your answer.

High River.

E. H. SCHROEDER.

Ease of starting is gained by heating the mixture and condensation is prevented in cold weather, this being the case where the manifold is unusually long. The cold mixture is more effective, however, as the colder the air is the denser it is, and, consequently, the more oxygen it contains. Many foreign cars are so equipped that either hot or cold air may be used at will, while others circulate the cooling water round the carburetor to keep it warm, this being found on some American cars as well.

The Montana law, which became effective early in March, 1905, does not provide for registration, so that unless it has been amended in the interim, a foreign number is good there. This is also true of the North Dakota law, passed in the same year. The principal sections of both laws are: "Speed rates (Montana, 20 miles outside, and 8 miles an hour in cities; North Dakota, 15 miles outside, 8 miles inside, and 4 miles an hour on city crosswalks when persons are using same), Duties upon meeting horses, Definition of motor-vehicle, Punishment for violations, Muffler, lamps, bell, etc., Laws of the road," etc., which are virtually the same in both, and correspond to those generally embodied in laws of this kind throughout the United States.

SUBSTITUTING SILVER FOR PLATINUM.

Editor THE AUTOMOBILE:

[1,296.]—I have an Indian motorcycle, 1906 model. I lost the platinum out of the circuit breaker and the platinum is burnt or worn off the screw. Do you think that silver is a good substitute for platinum?

C. C. M.

Stockton, Cal.

If silver were an effective substitute for platinum it would be generally employed by manufacturers, as the cost is but a fraction of the latter. It will give good service in an emergency, as in case where the platinum contact has dropped out, or worn away entirely, but it is not proof against oxidation to the same extent, and will wear away much more rapidly, as it fuses readily.

WHAT CAR HAS THESE FEATURES?

Editor THE AUTOMOBILE:

[1,297.]—Is there an automobile manufactured in the United States that uses both the friction transmission and two-cycle motor?

JOS. H. STRAWN.

Star Junction, Pa.

We are under the impression that such a car is built in this country. If we recollect aright, it is of the high-wheel, or "buggyabout" type, but we cannot recall its name at the moment. If any of our readers can help us out, we will be pleased to publish their answers for the information of the inquirer.

HOW MUST BRAKES BE APPLIED LEGALLY?

Editor THE AUTOMOBILE:

[1,298.]—Will you kindly furnish me with the following information: Is there a law in any State requiring the application of brakes to the wheels direct on motor-driven vehicles? If so, in what State, and where can I secure a copy of the ruling?

Chicago, Ill.

J. A. HERZOG.

While a majority of the so-called motor-vehicle laws of the various States provide that automobiles shall be equipped with breaking devices, we do not know of any that specify in detail just what part of the car the brakes shall be applied to. Much of the proposed legislation of earlier days was of an extremely weird brand, and in it many of the Solons tried their hands at

specifying just how a car should be built, some thinking that the machine should be so constructed as not to be able to exceed a certain speed limit. None of these ever became law. If any of our readers are better informed on this subject, we should be pleased to hear from them.

EXPLAINING THE CARBURETER DIFFICULTY.

Editor THE AUTOMOBILE:

[1,299.]—Every time a tire "gets bad" or "blows out" it is immense satisfaction to know exactly the service it has given. Without a written record an estimate is either unjust to the owner or the manufacturer.

First, if the tire does not bear a serial number for identification, it can be permanently marked on the inside, using a wet sponge plus a heavy indelible pencil. The water will soak the marks deep into the canvas.

Next, for each tire numbered, prepare a large card similar to the following form, upon which the whole performance of the tire can be intelligently noted. For example, the first line to be the descriptive:

No. 100. Kind, 36 x 5, smooth tread. Bought of 1/1/08. Cost, \$75.00

	Date	Wheel	Miles Registered	Total Mileage	Remarks	Total Cost
Put on . . .	1/15/08	Right rear.	1,000	.....	Kind of car .....	.....
Removed . . .	4/1/08	.....	5,000	4,000	To factory for retreading, \$20.00.....	\$95.00
Put on . . .						
Removed . . .						
Etc.						

Using heavy pasteboard cards and an indelible pencil will furnish a complete, accessible, and permanent record of each and every tire, and can be easily filed in a prepared rack. Believe that the tire manufacturer could please many of his customers by having a neat form printed similar to the above, as well as an advertisement for him.

M. G. AUGSPURGER.

Cincinnati.

ABOUT THE DEALERS AND THE SUPPLY HOUSES.

Editor THE AUTOMOBILE:

[1,300.]—In a recent issue of "The Automobile," I noticed an article regarding agent complaining that factories were selling cars direct to the consumers and sign contracts with any Tom, Dick, and Harry, in which case they used to form a club for buying a few cars at a time so as to fulfill the contract. Now, I think that agents and retailers also would have a reason to complain about supply houses selling supplies by mail direct to consumers. I, most of the time, found that when a consumer needs any accessories or supplies, he will ask for a catalogue price and then ask for the discount on it. In most cases, if they do not give him the discount that is given by the supply house, those parties will send to the supply house themselves and order what they want. I do not see any reason why the supply houses should limit themselves to do business with bona fide dealers only, as I am almost certain that the public would be buying just as much, regardless whether they could get it from the supply house or from their local dealer. Now, why could not retailers in automobile supplies, and garagemen, form an association, in which case each member would have to prove himself to be a dealer and running a garage or repair shop as a business. If this could be realized, it would be easier for the supply houses to know with whom they deal, and it would also be easier to keep a standard price on each and every article. As it is, at the present, with no fixed price on the products, one dealer will charge more and others less than the catalogue price, and I believe this to be the cause that the motoring public generally prefer to send to a supply house for their supplies, where they know that there is only one price.

I would like to hear the opinion of others on the same subject, as I really believe that sooner or later something must be done in this line so as to better regulate the trade. ARTHUR BEIJER.

Phillips, Wis.

CONCERNING THE QUESTION OF TIRE HEATING.

Editor THE AUTOMOBILE:

[1,301.]—"Pneumatics," in his letter of March 26, on the heating of tires, goes at the subject in the right way, but I should like to take exception to some of his reasonings. He concludes that the heating is probably due to compression of the air in meeting obstructions, because "the causes of this super-compression follow one another with such rapidity that the attendant expansion has but slight cooling effect." This is rather hard to follow. There

must be as much expansion as compression, no matter what the speed, and it is an invariable rule that as much heat is lost in expansion as is gained in compression. On the other hand, I believe that a large part of the heat is caused by internal friction in the shoe—a possibility which "Pneumatics" dismissed without much consideration. Rubber is not perfectly elastic; consequently a large part of the work done in distorting it is transformed into heat. My conclusion would be that the heating is due both to internal friction and road friction, the proportion, of course, depending on the smoothness of the road.

G. H. GODLEY.

Cambridge, Mass.

DR. HARD ANSWERS HIS CRITICS.

Editor THE AUTOMOBILE:

[1,302.]—My critics are partly right. Boiled down into a few words, a car is retarded most when the drive wheels make the motor run at the highest speed. But the all-round and most serviceable method of retarding the progress of the car by using the motor for a brake, is to simply cut out ignition and leave the high speed on. The Minneapolis critic requires no reply. The factors of resistance, such as compression, friction, etc., were correctly stated. Old tire casings placed on the wheels, as directed in my former article in "The Automobile" gave better results than any other way of protecting that I have seen, and I am not without experience. This letter will serve to answer the published criticisms, and also quite a number of private communications on these subjects.

A. D. HARD, M.D.

Marshall, Minn.

EXPLAINING THE CARBURETER DIFFICULTY.

Editor THE AUTOMOBILE:

[1,303.]—In answer to letter No. 1,218, I would suggest to him that he reduce his air in same way I did on Schebler carbureter, the air opening just above the valve is, I judge, about one-half by three-quarters. I took a small piece of tin and inserted it down inside air intake. Closing that opening to about 1-4 by 3-4, drilled small hole through pipe, fastened with small bolt, so it could not get out of adjustment. My motor will start now 8 times out of 10 on compression. Previous to my doing that I had same trouble he complained of. Was evident to my mind that the air valve did not begin to work until you speed up motor. Consequently, was getting too much air to start motor properly, or could not start motor at all until I cranked my head off.

A. C.

McKeesport, Pa.

ANOTHER EXPERIENCE WITH DECARBONIZER.

Editor THE AUTOMOBILE:

[1,304.]—Noticing in your "Letters Interesting and Instructive" an article on "Lubrication," and in letter No. 1,253, J. L. Williamson stated he believed he was the only one using decarbonizer in his oil. Last fall I had trouble with dirty and greasy plugs, and tried several things, but had to clean my plugs every day to get any kind of service until I tried decarbonizer in the cylinders and found it helped. Since November I have used a tablespoonful in each cylinder every two weeks, and also about 10 ounces of the same in every gallon of lubricating oil. As I drive a Winton and have no splash system, have had my plugs out once since November and found them clean but slightly colored, but never touched them.

H. LEASE.

Davenport, Ia.

WHY THE GASOLINE DRIPPED CONSTANTLY.

Editor THE AUTOMOBILE:

[1,305.]—In answer to letter No. 1,218, I should think your trouble is caused by a leaky carbureter, either from the setting of the float, or from the seat of the needle valve, thus allowing the gasoline to collect in the bottom of the carbureter. This would naturally drip out, as there are some small holes in the bottom of the Schebler carbureter—these must be stopped up.

When the engine is cranked it draws a lot of gasoline to the cylinders, which is too rich to explode, and thus the cranking continues until this gasoline is got rid of. I had this same trouble, which was remedied by regrinding the needle valve to its seat.

E. T. P.

CARBON DEPOSITS CAUSED THE TROUBLE.

Editor THE AUTOMOBILE:

[1,306.]—I note in letter No. 1,277 that a reader asks if any other reader has had the same trouble F. R. Zeigler complains of in the March 12 issue. I have had the same trouble with my Ford. I found my trouble was carbon deposited in the carburetion chamber, and I found heavy carbon deposits around the valve seats, and after removing the carbon my engine ran like new.

Uhrichsville, O.

J. W. LYTHE.

BIRTH, DEVELOPMENT, AND FUTURE OF THE SIX

By C. C. HILDEBRAND.

ENGLAND has been generally credited with being the birthplace of the six-cylinder idea, but the records seem to indicate that the first car having a six-cylinder vertical engine was the "Gasmobile," which was built in this country and exhibited at the New York show of 1901. A search through the back files of the English trade papers does not disclose any word concerning the six-cylinder Napier previous to October, 1903, nearly two years later. The Standard Motor Construction Company built their first six-cylinder engine in 1902, and had it running in a boat in the spring of 1903. About this time two other American manufacturers built a six-cylinder car, but these were not successful nor satisfactory, and hence discontinued.

Although America can probably claim the honor of having made the first six-cylinder, the American makers were so sure that the one and two-cylinder cars had all the cylinders needed that they failed entirely to appreciate the value of the multi-cylindered engine. Therefore much of the credit for the present popularity of the "sixes" abroad must be given to the Napier company and the present popularity of the "sixes" in this country must be given to the Stevens-Duryea Company.

J. F. Duryea, who built the first successful automobile in America, has had vastly more experience than any other designer in this country. He realized long ago that the six-cylinder type eliminated intermittent torque, dead center and lack of balance—the three defects of the one, two and four-cylinder engines. The Stevens-Duryea Company, believing that the acceptance of the six-cylinder car in higher horsepowers would be general as soon as the public realized its advantages, disregarded the universal antipathy to "sixes" which has existed and began the development of a six-cylinder model far in advance of other makers.

The manufacture of the Stevens-Duryea "Big Six" was begun in 1905, which makes the Stevens-Duryea Company the first American manufacturer not only believing in the six-cylinder idea, but backing up their belief by manufacturing sixes and ordering material for over half a million dollars. The success of the "Big Six" was instantaneous, and the result of this success was evidenced by five American manufacturers making sixes in 1906. In the foreign field four manufacturers were building sixes. The design of the "Big Six" that was made in 1905 was so perfectly worked out in the drafting room that no changes in mechanism have been necessary up to this writing.

In the meantime the obvious superiority of the six-cylinder car resulted in a heavy demand for this type, and the Stevens-Duryea Company had produced the "Light Six" and were marketing both the "Big Six" as well as the "Light Six" while other makers were hurrying designs and testing out new six-cylinder models.

In 1907 the six-cylinder idea had so spread and manufacturers had so rushed to meet the increased demand for them that we find a total of seventy-seven foreign makers producing six-cylinder cars and many others working on them. In America there were exhibited forty-six six-cylinder cars at the New York show in 1907, and there are at the present time twenty-seven American concerns manufacturing six-cylinder cars. The fact that the people demanded sixes had the effect of bringing the manufacturers to time, and they ceased opposition and designed sixes.

At this time the Stevens-Duryea Company had hundreds of sixes in the hands of owners giving entire satisfaction. Some of the advantages of the six:

- It runs more slowly on high gear.
- It picks up speed faster and more easily on the throttle.
- It has much less vibration.
- It runs with a silence unknown to the four.
- It makes gear shifting almost unnecessary.
- It is decidedly better for hill climbing.

A thorough test of the Stevens-Duryea six through crowded streets, through stretches of sand, and over difficult hills will easily prove these statements to be true.

All mechanical engineers admit that the six has more flexibility than the four, on account of having a more perfectly balanced engine, and it is this perfect balance that produces absence of vibration and smoothness of running. This flexibility is also brought about by the power stroke overlapping each other. Before the first cylinder has stopped delivering power, in fact when the piston is about two-thirds of the way down, the second cylinder begins, and so on. This means that even when the engine is running very slowly the power is absolutely continuous, and that during three periods in each revolution two cylinders are working at the same time.

In the Stevens-Duryea sixes the unit power plant and three-point support are used, which are so designed as to secure unvarying alignment between the various points of the power plant, and if there is one thing that spells failure for a six-cylinder car it is to have the car so built that the engine and transmission are exposed to every twist and bend and strain that come with traveling over this country's strenuous roads.

At the present time there are eight hundred and fifty-eight Stevens-Duryea six-cylinder cars in use from Portland, Me., to Portland, Ore., and from Minneapolis, Minn., to Mexico City, Mex., all of which are giving entire satisfaction. It has been the experience of the Stevens-Duryea Company that anyone who has ever driven one of their sixes will never go back to a four, except for a smaller car, and this fact strongly shows the tendency of the future. They believe that anyone purchasing a four-cylinder car of more than 40 horsepower and paying more than \$2,750 for it, should buy a six. The single-cylinder, two-cylinder and four-cylinder engines will be used indefinitely to fill that demand, and it is the concensus of opinion of Stevens-Duryea owners, a great many of whom have owned two and four-cylinder cars and have driven in and are familiar with certain four-cylinder types higher in price even than our Model U, that after every such experience they have invariably returned to the six-cylinder with added enthusiasm. The flexibility, smoothness and surprises of the six-cylinder engine surely have brought the enthusiastic and exacting automobilist more than ever to the realization of his dream.

Unless an extraordinary revolution in gas engine design takes place, the six-cylinder engine will continue to represent the best in motoring, as it means smoothness, silence and ease of operation to a degree unknown in any four-cylinder car.

FOR PRESERVING THE HORN BULB.

A stitch in time certainly saves nine with the rubber bulb of the average horn, says the *Autocar*. Most of them have a raised ring in the middle of the bulb just where the thumb of the driver comes, and very soon at this spot the rubber gives way. As we have pointed out before, the bulb can be mended quite well with a solutioned patch, but this is apt to give way from time to time. The best method is to deal with the bulb before it commences to leak. The first thing to do is to fill up the space inside the raised ring with a solutioned disc of rubber. Then solution another ring of rubber round the raised ring, about half an inch wide, and on top of this place still another piece of rubber. If this work is carefully done, it results in the part of the bulb which is most subjected to wear being greatly strengthened, and they will last for a couple of years without renewal. The operation may be simplified by paring the ridge away with a sharp knife, until flush with the bulb, then placing a large patch right over the top of the entire bulb. There is no better material for the purpose than an old inner tube.

Skyward in a Northern



A Five to Twelve Per Cent. Grade Marked the Way Up Mt. Hamilton.

JUST twenty-seven miles east of the beautiful city of San José, in the sunny land of California, old Mt. Hamilton rises up in solitary splendor a sheer 4,409 feet above the sea level. Capping it, much like a monk's tiny skull cap, is the famous Lick Observatory, known the world over for its great telescope, its remarkable photographic apparatus and appliances for making pictures of the heavens and their celestial bodies, and for its marvelous instruments for recording the time and velocity of the wind, atmospheric conditions and seismic disturbances.

Thousands visit the Lick Observatory yearly and pay tribute to Mt. Hamilton in enthusiastic expressions, marveling at its grandeur. Few, however, have experienced the sensation of flying up its dizzy heights as did John D. Swan in his Northern touring car, February 22, of the present year. But Mr. Swan's story is best told in his own words:

"Leaving San José, decked in gorgeous flowers, as it always is at this period of the year, a light breeze fanning the slender giant palms that line each side of the road we headed our Northern across the level roads, four miles to the foot hills, where the first grade was reached. The road was as smooth as a city pavement. As far as the eye could see, fruit, orchards in bloom dotted the rolling hills, while here and there a little brook sparkled in the morning sunlight. The whole scene was enchanting. To fly swiftly along, up and down grades, across miniature bridges and around curves, much as if the car was being drawn by some distant star or pushed over the hills by an unseen hand, provokes sensations wonderfully exhilarating and joyous—feelings that can hardly be expressed in words, but which every autoist who takes such a trip can well understand.

"The last stage-station was reached before we knew it. Thirteen miles away and four thousand feet above us the great Observatory shone, looking for all the world like a lilliputian monument. From this station our quiet car glided down a slope to the valley below, little thinking that immediately on the other side the real climb commenced, and

that, from there on, the smoothly running motor under the hood must push the car and its passengers up and above the clouds.

"The road led on round and round the mountain, the grade meter on the dash indicating at times a grade ascent of 12 per cent. Never did it drop below five or six, although the high-speed clutch of the car was in, practically sealed, because from the time the car left San José it had not been pulled out of position. Not an inch of the road was level not a yard straight; the road wound in and out around rocks, skirting precipices and cañons, for all the world like a giant serpent with its fanged head in the skies and its tail in the valley below.

"About half way up the mountain we felt the first effects of the perennial snow, the road on the north side being very slippery, and on the second winding the snow made its presence felt in earnest. Not only was it much colder, but huge drifts appeared on either side of the twisting road. The snow is always particularly bad on the mountains of California in February. The road is kept open by shovelers, and the Northern never wavered in its progress up the winding way to the final spurt up the 12 per cent. grade to the mountain crest. The road in this particular spot is covered with broken stone, made slippery by the constant moisture, and we learned from the keepers of the Observatory that this had proven the 'last straw' for many an auto which had striven gallantly to reach the dizzy height which the Observatory occupies.

"Our car glided swiftly up to the very door of the Observatory, and for the first time I pulled out the clutch and brought the car to a stop. The kindly guide at the Observatory looked over the Northern in amazement, and informed me that on only one or two previous occasions had a car been driven to the door of the Observatory, and that the record time was held by a racing machine which had dashed up the mountain in the heat of summer over dry roads in 1 hour 17 minutes. The 24-horsepower Northern had not been driven against time, but when watches were referred to it was found



At the Mountain's Top in Front of Lick Observatory.



Northern Car in Mt. Hamilton's Perennial Snow.

that the long non-stop run had been made in just 1 hour 50 minutes from San José, and this at a constant speed without changing gears or a single stop. Mrs. Swan accompanied me on the trip and was much impressed with the beauty of the scenery and the glorious possibilities of exploration which the automobile offers.

"The old bearded stage driver who approached our car, clambered down from his heavy stage, announcing his guests to the guide, and came over to look at his apparent competitor standing before the Observatory door. After I had assured this quaint character that I did not intend to compete with him in his passenger service and answered his many questions, I asked him why he did not drive four or six horses, instead of two. The driver looked at me as if contemplating whether or not I was joking with him, and, seemingly convinced that I was in earnest, answered: 'Wal, you see. It's like this. In the first place, four horses would cost twice as much as two. Then they'd stow away twice as much feed and take twice as much looking after, and what's the use of having four when I can do the work with two?' Going down the mountain, after we inspected the Observatory carefully, we had an opportunity to test the efficiency of the brakes."

A CLUB RUN IN CALIFORNIA.

SAN FRANCISCO, April 1.—The first scheduled event of the season under the Automobile Dealers' Association of California took place last Sunday, and lay from this city to the summit of Mt. Hamilton and return. Most of the cars left on the 7 o'clock boat, but all day they left the city for a run to the blossom district. The run was made down the Oakland side to San José, out Santa Clara avenue to the Alum Rock road, from which on the right branches the Mt. Hamilton road. There was no contest of endurance or speed in connection with the event, which was purely one of a social nature. The distance from San José to the summit is twenty-eight miles, the last seven being characteristic of the entire route, having, in the course of the seven miles, 365 turns. It is a most picturesque trip, over excellent roads. The hills and valley were carpeted with bright green grass, splashed here with the flaming orange of the California poppy, and there with the yellow of the buttercup, while in shadier places were masses of purple and pink. At the foot of the hills and along their bases nestled the symmetrically laid-out ranches and orchards, with their carefully kept-up fields and outhouses. In the far distance could be seen the sparkle of the waters of the Pacific. The day was exceedingly clear, with a bright, warm sun and just enough breeze to carry the scent of the blossoms, hundreds of acres of which looked like blocks of snow. More than fifty automobiles made the run, and, on an average of four persons to a car, fully two hundred persons visited the Lick Observatory, which crowns the summit of the mountain. The run back to San Francisco, from San José, was made on the coast side, over the new boulevard being constructed through the untiring efforts and supervision of R. P. Schwerin.

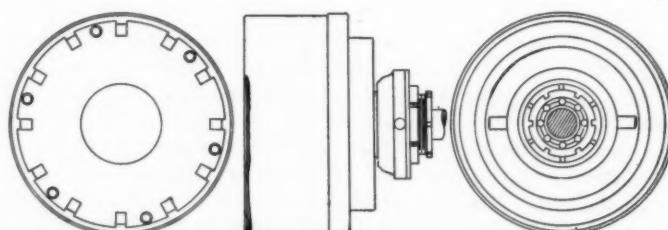
INTERESTING TEST OF NEW FRICTION CLUTCH.

After a year's experimenting and study of the problem, Forrest R. Jones has brought out a new friction clutch, which has been termed the "Atorqlim." In a recent shop test to determine uniformity of torque limitation, rapidity of picking up full load and releasing it completely, and the effect of heating on the bearings and other parts of the clutch, the driving member rotated at 450 r. p. m., the "driven" side being held so as to prevent its rotation. The turning force transmitted to the driven side was weighed on a pair of scales, as when using a Prony brake. The adjustment of the clutch was for 105 foot-pounds torque, corresponding to 20 horsepower at 1,000 r. p. m.

During most of the time the clutch was mechanically let into engagement and released, as by a foot lever, at the rate of 170 times a minute. The duration of each full frictional engagement was half the total time between successive releases. Several times during the test, and at the end, the mechanical releasing device was thrown off, and the clutch left in continuous full frictional engagement for five to ten seconds, sometimes fifteen seconds and longer. After running half an hour in this manner, the clutch became so hot that black smoke began to puff out at every release and ordinary machinery oil vaporized rapidly from the outside. This continued till the end of the test, which covered something more than an hour.

The torque limit, as indicated by the weighing scales, did not vary beyond 25 per cent. in the tests where the clutch was left in full engagement for several seconds continuously. When released 170 times a minute, the variation was within 5 per cent., as shown by keeping the scales adjusted so that the beam was lifted each time but did not strike at the top. No adjustment of the clutch was made during the test. At each release the lever arm resting on the scales could be lifted by a slight pressure of one's little finger. An attempt to weigh the drag when the clutch was released was unsuccessful on account of its being so small, except that it was plain that it was within a foot-pound. No indication of wear or injury to any part on account of this test was found when the clutch was taken apart after the test. The originally bright parts enclosed by the friction rings had become thoroughly blued and blackened by the heat. Black smoke continued to come off for more than a quarter of an hour after the opening. The clutch was still in perfect working order.

In earlier trials the friction rings were left annealed very soft in order to see the effect of their cutting and abrasion, and of the resulting chips of metal, on the action of the clutch. It took care of them satisfactorily. More than half a pound of these chips was removed from the clutch just before beginning the test described. The friction rings were, of course, roughened in



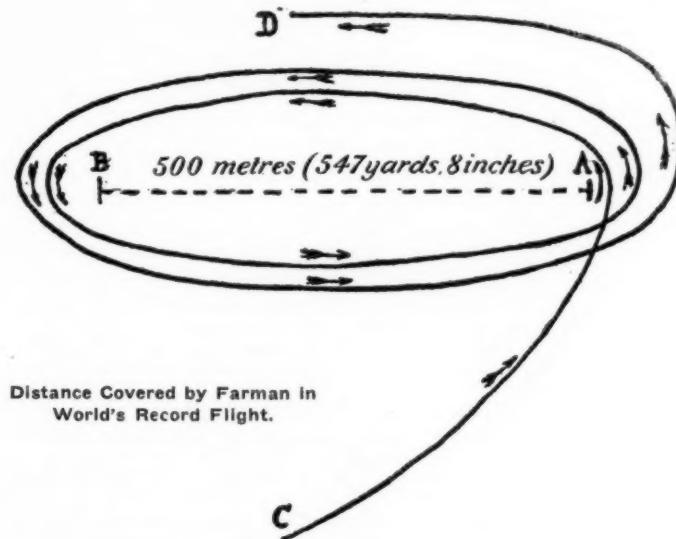
Details of the New Atorqlim Friction Clutch.

the earlier tests, but the internal bearings were not affected at any time, since they are made to withstand temperatures far above that which blues steel. The maximum to which the torque is limited is reduced by pressure on the releasing lever; the clutch can therefore be operated the same as any other type, for more gradual starting than complete engagement gives, and still retains its advantage over the usual types in that the torque is prevented from exceeding the limit determined by the pressure of the foot. The accompanying illustration shows a side elevation of the complete clutch, while at the right is a plan view, the third sketch showing one of its components.

HOW FARMAN AND DELAGRANGE MADE RECORD FLIGHTS

PARIS, March 25.—One mile 428 yards 32 inches is the world's official flying record, established by Henry Farman, in his Voisin Frères aeroplane at Issy-les-Moulineaux, Saturday, March 21. In reality, the distance is over two miles, for, during the 3 minutes 31 seconds that Farman remained aloft, he made two complete circles round the two flagstaffs planted in the military ground at a distance of 547 yards 8 inches, one from the other. Four times the distance from flag to flag gives the official record; but, as it is impossible for a mechanical bird measuring more than 33 feet from head to tail to swing round as easily as a taxicab, considerable allowance must be made for the turning curves, the preliminary flight, and the final sprint prior to coming to earth.

When the officials of the Aero Club of France planted the two flags at the extremities of the measured track, the monotonous plain on the banks of the Seine was so enshrouded in fog that it was almost impossible to distinguish both flags at once. Farman was ready first, and, after a little preliminary cantering, started from the outermost edge of the ground for one of the flagstaffs, rounded it with but three or four feet to spare, and rushed toward the opposite one. In a few seconds another



huge circle had been described around the two fluttering flags; but when the official starting point had been crossed for the second time Farman still continued, flying wider afield, and coming to earth gradually at the outside of the ground.

So far as could be judged, only the limitations of the motor prevented a much longer aerial flight. Since winning the Deutsch-Archdeacon prize, Farman's aeroplane has been dismounted and reconstructed on identical lines, with rubbered cloth, manufactured by the Continental Tire Company, this material replacing the former varnished silk covering. The new Renault air-cooled eight-cylinder motor was also fitted, but when experiments were made, was found to need some tuning up, and was dismounted and sent to the factory. It was, therefore, the original eight-cylinder water-cooled Antoinette which drove the aeroplane in its world-record flight. Though running without a skip from beginning to end, the Antoinette has the serious disadvantage of possessing a very small quantity of water in its jackets and tanks, and to be limited by reason of weight in the amount of gasoline it can carry. Thus a flight of any length is almost an impossibility unless more fuel is carried.

"Climb in and Fly with Me," said Delagrange.

Leon Delagrange entered the arena at noon, when a little of the excitement attending Farman's victory had subsided. A little preliminary cantering over the ground to the healthy roar

of the eight-cylinder motor, then the signal for an official flight, and 2 minutes 30 seconds later a circle of 1,640 yards had been described. Had Delagrange started first his performance would have been a record, for the previous long-distance flight was one kilometer, covered by Farman on January 13.

Farman had remained an interested spectator of the flight of his friend and rival, and was but a few yards from the aeroplane when it came down. "Climb in, Farman, and I will take you back to the sheds," cried Delagrange. In a second Farman was mounted behind Delagrange for the trip to the sheds.

Michelin Increases Aero Prizes to \$52,000.

In consequence of Farman's new record, the committee of the Aero Club of France fixed the distance to be covered this year to win the Michelin prize at 12.4 miles. During 1908 the prize may be competed for after April 10, and for the succeeding seven years the dates, distances and conditions will be determined by the French Club. M. Andre Michelin announced that he would increase the total amount offered for these competitions from \$50,000 to \$52,000. For eight successive years the sum of \$4,000 and an artistic cup valued at \$2,000 will be given for the longest flight in France or any country having an aero club affiliated with the French organization. Originally, it was intended to make the first year's distance double that of Farman's record in January, 1908, doubling the distance each year.

For the \$20,000 Michelin prize, an aeroplane with two persons on board must start from any point in the Seine or Seine and Oise department, encircle the Arc de Triomphe at Paris, fly to Clermont-Ferrand, encircle the Cathedral of that city, and descend on the summit of the Puy-de-Dome. The distance from Paris to the Puy-de-Dome is about 220 miles, and must be covered in a time limit of six hours. The Puy-de-Dome being 5,800 feet above the level of the sea, an aeroplane would have special difficulty in making a flight to such a height, owing to the rarification of the air, which, it is calculated, would decrease the sustaining power of the machine by at least one-sixth. Resistance would necessarily be less, the machine operating in a fluid of lesser density. Ten years are allowed for the accomplishment of this long-distance flight.

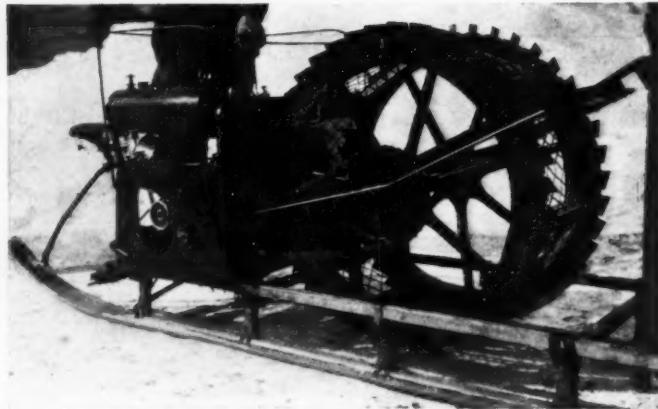
Details of Farman's Nearly Serious Accident.

PARIS, March 28.—Henry Farman's aeroplane, the modified machine with which the flyer won the Deutsch-Archdeacon prize, is no more. Farman was training on the Issy-les-Moulineaux ground Friday morning, in the presence of a small number of spectators, when, on making a turn, the left wing of the aeroplane came in contact with the ground while traveling 30 miles an hour. It collapsed under the blow, throwing the pilot violently from his seat. Farman lost consciousness, and is only able to give a meager account of what happened. It is his opinion, however, that he attempted to turn too near the ground, at a height of 2 to 2 1-2 yards, the inclination of the machine causing the lower part of the left wing to touch. It is also extremely probable that, at the moment of turning, the machine was driven still nearer the ground by a gust of wind.

Louis Bleriot, who had been timing Farman's attempt, rushed to the spot immediately. Farman was lying face downward, his chief injuries being to the face and mouth. Upon being carried into one of the temporary sheds, he regained consciousness, and was taken home in an automobile. Fortunately, no part of the aeroplane, or its motor, fell upon him, and it is to this fact that he owes his life. The aeroplane was completely destroyed, but the Antoinette motor is intact. Farman will probably be out again within a week.

To the South Pole by Auto Sleigh.

Automobile sleighs have come to the fore in such numbers for the purpose of Polar exploration that a meeting was recently



Dr. Charcot's Auto Sleigh for Polar Exploration.

held on the Col de Lauteret, in Dauphine, to try them out. One of the explorers present was Dr. Charcot, who will head an Antarctic expedition, sailing on the *Pourquoi-Pas*, August 1 next. The type of sleigh he will use is shown by the accompanying photograph. It consists of three distinct parts, comprising the sleigh proper, which is of Norwegian build; the power plant, placed at the rear, and entirely protected from the snow; and the propelling wheel. The motor is rated at 2 3/4 horsepower, and the transmission provides two forward speeds, enabling the sleigh to travel at four kilometers an hour on the low, and eight on the high. The propeller consists of a wheel with two rims placed 28 centimeters apart and mounted on the same felloe, each being provided with grips designed to take hold of the ice.



On Their Mettle—From "The Car" (Eng.).

P. C. Trappe (aeroplaintively): "Flings is fair rotten! 'Ere I've been 'idin' in a cloud for three hours an' ain't nabbed one of 'em!"
P. C. Spotte (ditto): "Nor me, neither. Strikes me every balloonatic knows the clouds 'as got a 'copper' linin' nowadays!"

THE AUTOMOBILE CALENDAR.

AMERICAN.

Shows and Meetings.

- Apr. 4-11.....—Pittsburgh, Pa., Duquesne Garden, Annual Show, Automobile Clubs of Pittsburgh. Thomas I. Cochran, manager.
- Apr. 16-18.....—Memphis, Tenn., Automobile Show, Memphis Automobile Dealers' Association. William Bruce, secretary.
- Apr. 21-23.....—Louisville, Ky., New Coliseum, Automobile Show. Hubert Levy, manager.
- June 25-27.....—Detroit, Third Annual Summer Meeting of Society of Automobile Engineers.

Race Meets, Hill Climbs, Etc.

- Apr. 11.....—Philadelphia, Roadability Contest to Cape May, Quaker City Motor Club.
- Apr. 24.....—Briarcliff Trophy Race, Westchester County, N. Y. Robert L. Morrell, chairman.
- May 4-5.....—Harrisburg-Philadelphia and Return, 300-mile Endurance Run, Motor Club of Harrisburg.
- May 15.....—Chicago, Algonquin Hill Climb, Chicago Motor Club.
- May 16.....—Hartford, Conn., 200-mile Endurance Run, Automobile Club of Hartford.
- May 30.....—Bridgeport, Conn., Sport Hill Climb, Bridgeport Automobile Club.
- May 30.....—San Francisco, Endurance Run under the auspices of the Automobile Dealers' Association.
- June 24-27.....—Chicago, 1,200-mile Reliability Run, Chicago Motor Club.
- July 6-8.....—Buffalo, National Convention of the A. A. A., and Start of Fifth Annual A. A. A. Tour.
- Sept. 5-9.....—San Francisco-Los Angeles Reliability Run, under the auspices of the Automobile Dealers' Association of San Francisco.
- Sept. 14.....—Chicago, Annual Economy Run, Chicago Motor Club.

FOREIGN.

Shows.

- May 17-31.....—Austria, Budapest Automobile Show.
- May 17-June 2.—Moscow, Russia, International Automobile Exposition, Automobile Club of Moscow.
- December.....—Paris, Eleventh Annual Salon de l'Automobile, Grand Palais, Automobile Club of France.

Race Meets, Hill Climbs, Etc.

- April 1-13.....—Monaco Motor Boat Races and Motor Boat Exhibition, International Sporting Club of Monaco.
- April 25-May 25—Industrial Vehicle Competition, Automobile Club of France.
- May.....—Paris, Competition for Agricultural Automobiles, auspices of "L'Auto." (Date to be announced.)
- May 7.....—Sicily, Palermo, Targa Florio Circuit, Voiturette Race, Automobile Club of Italy.
- May 11-16.....—Ireland, Irish Reliability Trials.
- May 1-31.....—Automobile Taxicab Competition, France, Automobile Club of France.
- May 10.....—Sicily, Targa Florio, Automobile Club of Italy.
- May 31.....—Russia, St. Petersburg to Moscow Race.
- June 1-18.....—Reliability Trials for Pleasure Cars, Automobile Club of Great Britain.
- June 14.....—Mount Cenis Hill Climb, for Voiturettes.
- June 9-17.....—Touring Competition for the Prince Henry of Prussia Prize, Germany, Imperial Automobile Club of Germany.
- June 15-19.....—Scotland, Scottish Reliability Trials.
- July 6.....—Voiturette Grand Prix, Dieppe Circuit (Automobile Club of France).
- July 7.....—Grand Prix of Automobile Club of France, Dieppe Circuit.
- July 13-17.....—Ostend, Belgium, International Race Week, Automobile Club of Ostend.
- July 20-30.....—Ardennes Circuit Races and Coupe de Liederkerke, Automobile Club of Belgium.
- Aug.....—France, Coupe de la Presse, Automobile Club of France. (Exact date to be announced.)
- Aug. 29-30.....—France, Mont Ventoux Hill Climb, Vauclusien Automobile Club.
- Sept. 1-8.....—French Voiturette Contest, auspices of "L'Auto."
- Sept. 6.....—Bologne, Italy, Florio Cup Race, Automobile Club of Bologna.
- Oct. 11.....—Berlin, Germany, Gordon Bennett Balloon Race, Aeronautical Club of Berlin.

EDGE, PUBLICITY-GETTER PAR EXCELLENCE.

England possesses a publicity expert who stands head and shoulders above the leaders in what is generally supposed to be an American profession, and the land of the Union Jack is in ignorance of the fact. It is because S. F. Edge can always keep himself and the six-cylinder interests he has at heart fully in the limelight without any apparent show of commercialism that he has been accepted in a land where "big drum" methods are usually frowned upon, as the outstanding figure of British motoring. Edge is the winner of the Gordon-Bennett cup—way back in the

early days of the century; he is the holder of the world's twenty-four hour record; he is the eternal winner on Brooklands track. But Edge as a publicity man, such a connection never occurs to the Englishman. The crowning point of Edge genius is that whether he wins or loses in a contest, starts in a race or remains quietly at home, he is always, by a happy turn of circumstances, more prominently in the public eye than the man who wins or struggles to win the laurel wreath. Edge has already secured more prominence



S. F. Edge.

and enrolled more fervents for his cars in connection with the French Grand Prix than will the lucky mortal who passes the winning post and is carried up to be presented to some French potentate on the Dieppe course next July. Commanding those happy turns of circumstance is genius. There are plenty of drivers who are not afraid to match their skill against that of Edge; there are many who, like him, have graduated from a bicycle to a racing car; there are just as many who have reached the top rounds of commercialism, but there is no other man who can combine with such qualities an ability to keep the world's tongue continually wagging about Edge. A publicity expert has to retire after his third coup, declared an authority. It is false, and S. F. Edge, ex-cyclist, racing automobilist, business manager and letter writer is daily proving it so.

WHITE STEAMER GETS WILKES-BARRE PRIZE.

WILKES-BARRE, Pa., April 6.—By the forwarding of a gold medal to the White Company, Cleveland, O., a settlement of the dispute between the latter and the Wilkes-Barre Automobile Club, which has existed since the running of the Giants' Despair hill-climb on Decoration Day last year, has been reached. The medal in question was the first prize in the free-for-all event, which was won by Walter White in a steamer. At the same time an offer for settlement of the dispute over the prize for another open event was sent to Mr. Harper, of Philadelphia, and it is expected to be accepted. When this is done, the American Automobile Association will sanction the third annual hill-climbing contest, which is to be held on Giants' Despair on May 30 next. After the contest last year, the Wilkes-Barre club refused to award the prizes to the drivers of the steamers, and a protest by the latter was sustained by the A. A. A.

LOUISVILLE TO HAVE AN AUTO SHOW.

LOUISVILLE, Ky., April 6.—Through the efforts of Hubert Levy, of the Kentucky Automobile Company, Louisville is to have an automobile show, which will be held in the Coliseum on April 21, 22 and 23. It will be managed by Mr. Levy, and a large number of representative cars will be staged.



Designer E. J. Moon in 1908 Limousine Moon Car.

STEARNS WINS ATLANTA CLIMB'S OPEN.

ATLANTA, Ga., April 4.—Atlanta's second annual hill-climb, held recently on the Stewart avenue hill, was decidedly a success, despite a protest over the timing in the free-for-all event and a smash-up at the foot of the hill, when a car ran amuck.

Ed. Inman's 1907 Stearns, which won the free-for-all event last year, and set a record for the hill of 1:06, again captured the free-for-all, covering the slightly longer course in :51 1-4. This time was protested by John F. Kiser, who was second, with his Thomas, in :54. He claimed that the timers at the bottom of the hill caught the Inman car in 1:01. Here are the winners:

CLASS 1, RUNABOUTS COSTING \$1,000 OR LESS.

1. Buick.....	18	William Oldknow.....	1:20 1-5
2. Ford.....	15	M. C. Hule.....	1:28
3. Ford.....	15	J. H. Bryant.....	

CLASS 2, TOURING CARS OR RUNABOUTS COSTING \$2,000 OR LESS.

1. Reo.....	20	Joe Landers.....	1:29 3-5
2. Cadillac.....	20	C. E. Travis.....	1:29 4-5
3. Ford.....	15	J. H. Bryant.....	1:23 3-5

CLASS 3, TOURING CARS COSTING \$3,000 OR LESS.

1. Pope-Hartford.....	25-30	J. P. Grady.....	1:06 1-5
2. Oldsmobile.....	35-40	H. J. Lamar, Jr.....	1:11 3-5
3. Stoddard-Dayton.....	30	L. E. Fain.....	1:13 2-5

CLASS 4, TOURING CARS COSTING \$4,500 OR LESS.

1. Thomas Flyer.....	60	C. C. Rooney.....	1:07 2-5
2. Pope-Hartford.....	25-30	J. P. Grady.....	1:11
3. Ford.....	40	J. H. Bryant.....	1:16

CLASS 5, FREE-FOR-ALL.

1. Stearns.....	30	A. L. Almand.....	:51 1-5
2. Thomas Flyer.....	70	J. F. Kiser.....	:54
3. Pope-Hartford.....	25	J. P. Grady.....	:59 4-5



Driver Almand in Stearns Winner of Atlanta Hill Climb.

WHAT ONE CLUB IS DOING FOR GOOD ROADS

PHILADELPHIA, April 6.—The committee on roads, maps and signs of the Automobile Club of Philadelphia, with Powell Evans as chairman and W. O. Griffiths and C. S. Wurtz, Jr., as associates, has prepared a local road book of Philadelphia and vicinity for the use of its members. The club is giving a good deal of attention to the matter of good roads, and is also erecting signboards on all the important routes in the vicinity of Philadelphia.

Explaining its interest in the matter of good roads, the club's committee includes the following material in its little volume:

"The widespread interest and activity in good roads which has of late shown such general strength throughout the country has its origin largely in the growth of automobilism.

"The principal cause of the great European road system was military necessity—the provision of proper highways in surface, line, and grade to admit of speedy passage of troops and armament throughout the year. Highroads so constructed primarily by the State were preserved and maintained in more peaceful times for the different phases of their economic value. Hence

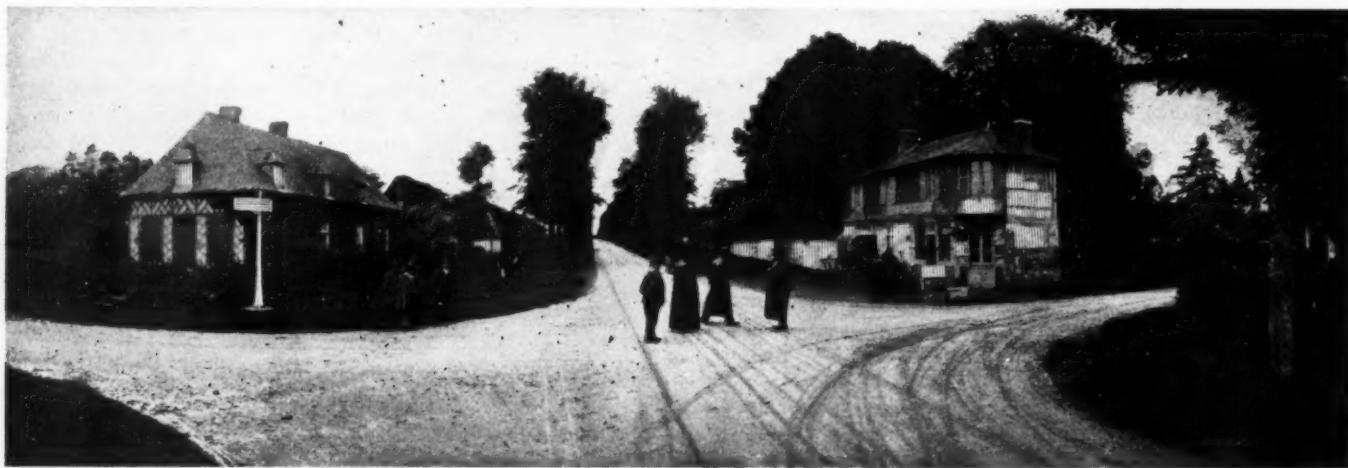
good roads. The excellence of the road system of any country largely measures the progress and intelligence of its people.

"Second.—Roads should be constructed and maintained by the community (State, county, or local authority, as the law requires). Main highways between centers should be constructed by the State or National government; crossroads by the local authorities; toll roads should be abolished.

"Third.—Roads should be constructed and maintained under a uniform and modern road law providing a common tax on property and its collection. Road work should be prosecuted by the designated authorities, without option to taxpayers of 'working out' the road tax—whereby citizens under inspection of local officials may neglect or evade their obligations by use of their influence as voters.

"Fourth.—Roads should be free to all travelers of the community alike under just and equal common conditions and limitations as defined by law. For example: Speed should be regulated by conditions of time and place, so that driving is not to be the common danger, without arbitrary limits and referable to the control possible for each vehicle. Lights should be carried during the night by all vehicles alike.

"Fifth.—Roads should be maintained by the community for use of all the people alike, with reasonable wear expected and allowed to admit of proper vehicle control. For example: Reasonable anti-



In France Roads Are Built and Kept in Repair and also Properly Marked by Comprehensive Signboards.

there has come down to modern days in many old countries complete road systems and experience practically unknown in this country. The United States was too large, new, and isolated to need or provide like highways prior to the advent of the railroad for transportation, and with this great want filled during the last half century, our road systems have been left to the mercy of careless and fortuitous development and maintenance. The reluctant restriction in traversible radius at any reasonable speed with any sort of load, together with the increase of cost from loss of time and maintenance of conveyance, is only beginning to be understood throughout the country.

"The advent and tremendous increase in the swift and comfortable motor car has enticed an ever-growing number of people into spending their leisure along the highways here and abroad. The contrast has been a revelation, and the sentiment of a few is growing into the action of a host who demand that this rich and beautiful country shall no longer lag behind others of like civilization and less wealth in the provision and maintenance of a highway system second to none anywhere.

"One of the moving reasons for the issuance of this pamphlet at this time by the Automobile Club of Philadelphia is to place before its members and friends the consideration of principle and detail, which are thought of value in advancing the cause of good roads in this part of the country where our interest centers, and where rapid progress can be made. We hold that:

"First.—Civilized communities should construct and maintain

skid tires in winter are as permissible for motor cars as carks in horses' shoes, even if road wear is increased, because such tires are as essential for driving to the common security as roughened shoes on horses. Both are certainly more injurious to roads than types for summer use. All or none of the traffic should be taxed.

"Sixth.—Every violation of road law should be notified by proper road signs placed by the authorities as precedent to a possible legal violation. For example: Many minor crossroads are so unapparent to the average traveler (especially a stranger) passing within legal speed as not to be recognized as such for the purpose of blowing a signal. The local authorities charged with the highways know these roads, if any do, and they should be required to erect warning signs at such crossings, giving plain notice to the traveler that a signal is to be blown there, before an arrest and fine for failure so to do is permissible.

"The Automobile Club of Philadelphia hereby announces and favors the above principles. It also counsels its members to fully learn and obey the road use laws, and to comply fully and carefully with all the rights and courtesies of the highway.

"The Automobile Club of Philadelphia, in advancing the work of good roads through the territory naturally falling under its activity, delegated to a Committee on Roads, Maps, and Signs, the work of surveying the highways for the preparation of maps and the location of signboards. This committee found few and inferior maps only partially covering the section, imperfect and unconnected road systems, and few and unreliable signs placed at random. It has for the greater part of a year given as much time as its members could devote to the subject without conflict with their other engagements."

APRIL DAYS AMONG THE AUTO CLUBS

PENNSYLVANIA CLUBS HAVE FULL SCHEDULE.

PHILADELPHIA, April 6.—Local automobilists are conditioning their cars for a severe campaign, which opens next Saturday with the Quaker City Motor Club's roadability run to Cape May, to be followed by the Norristown-Lancaster-Reading endurance run of the Norristown Automobile Club, April 28, the Harrisburg-Philadelphia-Harrisburg endurance run of the Harrisburg Motor Club, May 4-5, and the Wilkes-Barre hill-climb, May 30. These, with the York Automobile Club's endurance run, with another Quaker City Motor Club run to Wildwood, and at least one race meet at Point Breeze, will offer more than sufficient motor pabulum for even the most exacting.

Next Saturday's event for the Hotel Cape May cup already boasts 22 entries, with several more days to hear from. The start will be made after midday, with the finish less than five hours later, the 92 miles of fairly good roads offering no obstacle to the average car unless the weather be decidedly wet.

The Wilkes-Barre hill-climb is becoming as much of an annual fixture for the Quakers as for the Diamond City enthusiasts. Coming on Memorial Day, which falls on Saturday, there will be a week's end hegira of local automobilists to the Luzerne capital to take a hack at the plunder which the Wilkes-Barreans usually hang up to attract them. Arrangements are already afoot for a three-day run to and from the "American blue ribbon hill-climb," and probably the Quaker City Motor Club will call a run, as was done last year.

NEW PRESIDENT FOR ROCHESTER CLUB.

ROCHESTER, April 6.—In the annual meeting and election of officers of the Rochester Automobile Club, President Harry S. Woodworth retired in favor of Harry G. Strong, and in a farewell speech congratulated the members on the progress made during the year. The new officers are: President, H. G. Strong; vice-president, William C. Barry; secretary, Bert Van Tuyle; treasurer, Rudolph Schmidt. The new board of governors includes James E. Gleason, W. W. Hibbard, John E. Morey, F. E. Mason, Richard T. Ford, George E. Gordon, John S. Bingeman, A. F. Crittenden and Harry S. Woodworth. Until this election Mr. Van Tuyle has filled the office of treasurer and secretary.

In presenting his annual report Secretary Van Tuyle said that the past year showed a net gain of 75 members. At the last annual meeting the number of members in good standing was 335 and the club now musters 410. The stealing of cars has also been stopped, thanks to the action of the club and the co-operation of the police. This year it is proposed to have an additional safeguard in the shape of a filing system, whereby the club office will always have at hand a complete description of the cars owned by members.

The annual banquet of the club will be held Monday, April 13, at the Genesee Valley Club.

AUGUSTA, GA., CLUBMEN MEAN BUSINESS.

AUGUSTA, GA., April 6.—At a meeting of representative owners, held last Tuesday night at the Chamber of Commerce, steps were taken to thoroughly reorganize the Automobile Association of Augusta to insure great activity in the future. New officers were chosen as follows: President, C. B. Garrett; first vice-president, F. B. Pope; second vice-president, J. H. Davidson; secretary, Dr. Eugene Murphy; treasurer, C. D. Carr.

The club has aims other than mere social intercourse. Plans were discussed for the enrollment of the 110 owners of cars in the city, and for the adoption of speed and other regulations for the mutual protection of the members and the general public. The club will become a member of the Georgia State Automobile Association of the A. A. A., which shortly will be organized.

DEAD HORSE HILL CLIMB PROBABLY JUNE 6.

WORCESTER, MASS., April 6.—The governors of the Worcester Automobile Club lost no time in calling a special meeting of the board in the clubrooms, upon receipt of word that the bill introduced by a club member and fathered for two years by the club, allowing the mayor and the board of aldermen of cities and the selectmen of towns in Massachusetts to issue permits to hold automobile hill-climbing contests, had passed the legislature. As a result of the meeting, it is announced that the famous Dead Horse Hill contest would be revived probably June 6. This committee was appointed to confer with the mayor and board of aldermen of Worcester and the selectmen of the town of Leicester in regard to the date: John S. Harrington, George Stowe, J. P. Coglin, D. F. Gay, and F. E. Frost. Both bodies will have to be seen, as the Dead Horse hill course lies partly in Leicester and partly in Worcester.

The passage of the bill is a great victory for the Worcester club, and entailed no little work, in view of the fact that it legalizes speed contests on the fine State highways of Massachusetts, and during the holding of such contests bars the general public off the course, unless it sees fit to pay the admission price charged by the management of such a contest. The committee further announced that it had decided to bar from competition in the mile-long climb all specially constructed speed cars and freak cars. The climb this year—and, probably, in years to come—will be a competition for stock cars only.

DETROIT CLUB HAS OUTGROWN ITS HOME.

DETROIT, MICH., April 6.—The first warm days of Spring have brought the motorists out in full force, and many runs have already been made to the home of the Automobile Club of Detroit, at Pine Lake, twenty miles distant from the city. The clubhouse will not be opened for the season for some time yet, although plans are being perfected for the housewarming, which will mark the official advent of another season.

The only thing worrying the members now is the question of accommodations. Last year the commodious clubhouse had its capacity tested almost daily, and since that time the membership of the club has increased materially. When the home at Pine Lake was secured it was thought that all future trouble in the way of accommodations had been disposed of, but so firm a hold has motoring taken on Detroiters, and so popular is the club, that at the present rate it will soon be necessary to limit the membership or seek larger quarters.

PEORIANS DINE AND PLAN FOR TOURS.

PEORIA, ILL., April 6.—The Glide Automobile Club, of Peoria, which is an outgrowth of the old Peoria Automobile Club, held its first annual banquet at the Creve Coeur Club last Monday evening. There were some forty members present and guests from out of the city. A most enthusiastic time was had and a number of plans were outlined for runs and tours during the coming season. The club is collecting information regarding routes and road maps covering Illinois territory.

CHICAGOANS GO THROUGH "WILDEST CUBA."

CHICAGO, April 7.—Members and guests of the Chicago Automobile Club had a rare treat to-night in an illustrated lecture, "Through Wildest Cuba," setting forth the adventures encountered last winter by S. D. Walden, Ralph Estep and other Detroiters of Packard proclivities in a tour through the island. The lantern slides were all from negatives made by a member of the party that made the trip, and showed, in a striking manner, some of the difficulties met with in touring the island.

RAPID GROWTH OF AUTOMOBILING IN SOUTH

BY F. S. SLY, TRAVELING CORRESPONDENT OF THE AUTOMOBILE.

CHARLESTON, S. C., March 26.—Owing to its location, this city is a good field for both automobiling and motor boating, and some of the dealers handle both marine motors and automobiles, though the latter is their chief standby. There are now about 125 cars in use here and, as some of the autoists are enthusiastic, there has been some talk of organizing a club in the near future, but as yet nothing definite has been done.

C. V. Boykin, a resident inventor, has perfected a very simple little device to enable the driver to always start the motor from the seat on the spark. He has had it in constant use on a Mitchell four-cylinder car here since last July and it has proved very satisfactory in service. Patents were applied for some time ago and will be issued shortly. The inventor does not expect to manufacture the device but is desirous of selling the right to make it on royalty.

The prospects for selling a number of low-priced cars here are excellent. Roads in this part of the State are sandy, in contrast with the heavy clay soil to be found a little further north, and light, low-powered cars seem to fare much better on these sand roads than do much more powerful cars, owing to their weight. The cars represented here are the Premier, Reo, Rapid, and Manhattan, handled by the Charleston Motor Company; the Cadillac and Buick, represented by the Army Cycle Manufacturing Company; and the Ford, Maxwell and Mitchell, which are sold by the Automobile & Marine Motor Company. These three firms all maintain good-sized garages and repair shops, beside which there is the Automobile Repair Company.

Atlanta Claims Greatest Number of Autos in South.

ATLANTA, Ga., March 28.—This city is really the greatest automobiling center of the South, as it can boast of between 500 and 600 machines—a number equivalent to those owned in a great many other Southern cities put together. A club was formed about a year ago, but through lack of initiative on the part of its organizers interest in the movement was allowed to lapse and no meetings have been held. The project has recently been taken hold of anew and a reorganization of the existing club is now assured. Much interest is manifested in the annual hill-climb, which is to take place to-day. The course is about a mile long, and the start is made from what is practically a standstill, only 100 feet being allowed for the driver to get into high-gear before crossing the line.

The roads around Atlanta are fairly good in dry weather, though most of the cars in use here do not go far outside the city at any time, driving being confined to comparatively short runs. This city's importance as a Southern center of automobiling is reflected in the number of agencies and garages there are here, as well as their prosperous condition. The Packard and Pope-Hartford are represented by F. C. Steinhauer, while the Peerless and Buick are handled by H. C. Nesbit, and the Ford interests are taken care of by the Ford Auto Agency, in Houston street, which maintains a special garage for Ford cars. The Field Auto Company, and the Southern Auto & Equipment Company, the Columbia garage, and F. C. Steinhauer are the principal depots that take care of and repair cars.

Montgomery Believes in the Building of Good Roads.

MONTGOMERY, ALA., April 1.—The roads about Montgomery are an exception to the usual run of those found in the South, and that much of this is doubtless due to the influence of the automobile is evident from the fact that the county commissioners have recently been prevailed upon to appropriate an additional \$250,000 for the purpose of extending the improvements to the county line on the roads radiating from the city in each direction. This will make Chatham county one of the best equipped of its kind in the South. The Montgomery Auto-

mobile Club has been responsible, in a measure, for the good work thus accomplished.

The Cadillac, Pope-Toledo and Columbia are handled by the Montgomery Automobile Company, which maintains a good garage, as does also the Mosler-Hagler Electric Company, representing the Thomas and Babcock electric; the Capitol City Garage handles the Franklin, Buick and Pope-Waverley, while the Mitchell and Oldsmobile are represented by the Patterson-Ingalls Motor Car Company.

Jacksonville for Autoing Despite Scarcity of Roads.

JACKSONVILLE, FLA., April 3.—Considering that Florida is generally reputed to have less available road mileage than almost any one of the Atlantic Coast States, the fact that Jacksonville can boast of no less than 375 cars, affords excellent proof of the manner in which interest in automobiling grows, even under adverse conditions. There is an automobile club here, of which Charles Clark is president, and Herbert Race, secretary, but interest in its affairs has been permitted to lag somewhat. The city streets make excellent driving, but immediately outside there is nothing but loose, shifting sand. In addition to this, practically all of the wagons have the wide tread prevalent throughout the South. This is 60 inches, so that the traveling is made even worse for the 56-inch automobile. Cognizance is now being taken of the fact that the five-foot tread is standard down here, and the Ford Company make their light cars conform to this, when so ordered.

A number of cars are represented here, the Premier and Rambler being handled by R. W. Atkinson; the Cadillac and Buick, by Hutto & Co.; the Reo, Stoddard-Dayton, Atlas and Maxwell, by T. E. Gilbert, and the Ford, by L. C. Oliver, each one of these concerns maintaining a well-equipped garage.

Birmingham Has About 150 Automobiles.

BIRMINGHAM, ALA., April 6.—There are about 150 automobiles owned in this city, which possesses excellent streets, and the roads in the country are fairly good. Preparations are quite advanced for the betterment of country roads, and it is safe to state that in the near future there will be many miles of first-class highways in this vicinity. As one investigates the South, he is constantly surprised by the widespread growing interest in the matter of roads, and, furthermore, roads are actually being constructed.

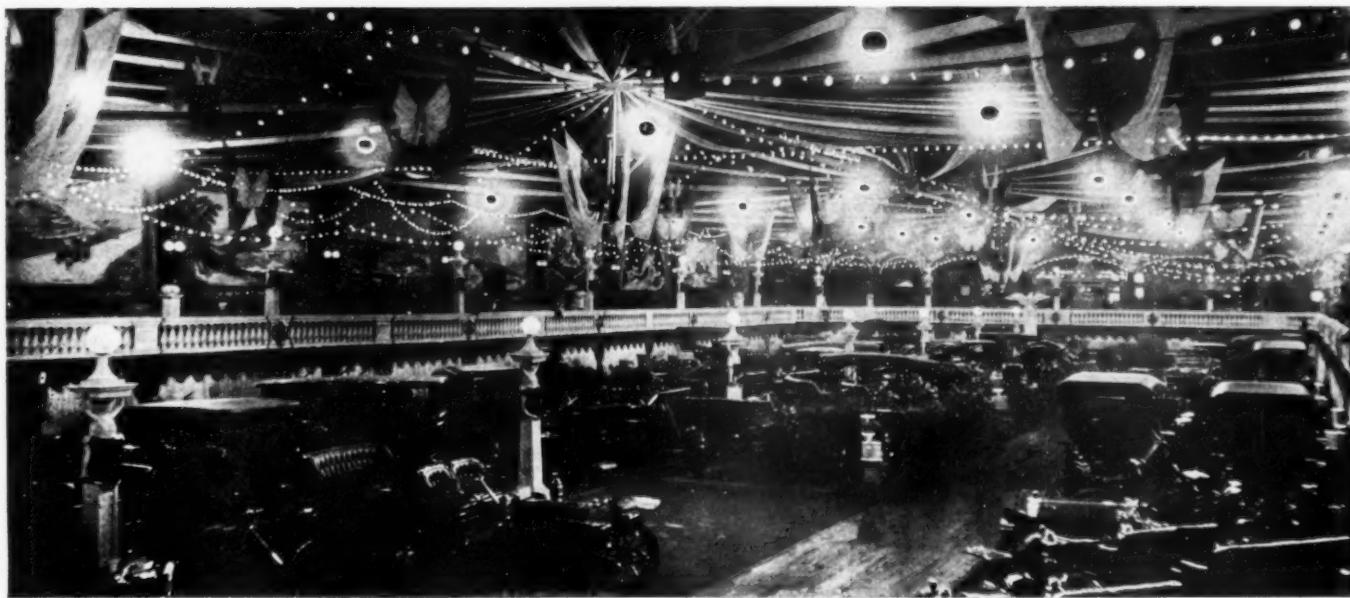
The automobile trade is quite well represented in Birmingham. The Automobile Exchange handles the National and Ford, also Baker electrics. C. C. Nixon sells Locomobile and Cadillac, and also conducts a garage. The Southern Garage handles Franklin and Brush cars, and the Birmingham Garage looks after Maxwell, Reo and Stoddard-Dayton.

James J. O'Rourke is about to open a new garage, 50 by 90 feet, two stories high, and will represent the White steamer.

Birmingham has a club whose activities have been somewhat apathetic. Its officers are: President, R. S. Munger; vice-president, J. E. Deadman; secretary-treasurer, Charles Denagle.

An Automobile Course from Chattanooga to Knoxville.

CHATTANOOGA, TENN., April 6.—According to the Chattanooga News, there is a movement on foot to establish an automobile course from Chattanooga to Knoxville. The plans provide for building a 75-foot automobile drive through the Mission Ridge tunnel, and then to Cleveland, and later to Knoxville. When built, it will be used exclusively by autoists, and no horse-drawn vehicles will be allowed on it. According to the News: "The first cost in the building of such a course would be about all the expense there would be attached to its building, because there would be very little wear and tear on such a drive if horses and vehicles drawn by horses are to be kept off it."



Imposing Display in Duquesne Garden, Pittsburg, Where the Show's the Thing During the Present Week.

PITTSBURG SHOW BRILLIANT SUCCESS.

PITTSBURG, PA., April 6.—When the Smoky City's 43 automobile dealers, representing no less than 82 different manufacturers of cars, get together and bend their efforts toward the attainment of an object, the result is a foregone conclusion. What they can do was amply illustrated when the doors of the Duquesne garden were thrown open on last Saturday afternoon. Pittsburg is young in the automobile show business, as this is but her second attempt. That the 1907 show was a complete success in every way goes without saying, but the manner in which even that laudable effort has been surpassed in the present event is enough to make manager Thomas L. Cochran and William M. Murray, president of the local trade association, swell with pride. Their contemporaries on the special show committee are W. H. La Fountaine and Earl Kiser.

Prominent among the exhibitors of complete automobiles are two newcomers in the shape of distinctively Pittsburg cars, one being the Belden, of which E. H. Belden is the inventor and which will be manufactured here on a small scale this year, while the other is the six-cylinder roadster being turned out by the Fort Pitt Automobile Company, at New Kensington, a few miles from here. Pittsburg's part in the making of accessories is well represented in the display of the Pittsburg Auto Top & Equipment Company; L. Glasenkamp Sons & Company, manufacturers of limousine bodies; the E. J. Thompson Company, who are also makers of limousine bodies; the Air-Tight Steel Tank Company; the Auto Tire Repair Company; the Auto Specialty Manufacturing Company makers of windshields and Joseph Woodwell & Company, who show a general line of accessories.

The Pittsburg Dealers' Association is issuing an attractive souvenir program giving considerable automobile information, such as routes, maps and the like, and has good reason to congratulate itself on the great success of the show.

Automobile Exhibitors.

Allegheny Automobile Co.—Pierce-Racine, Rapid Truck.
American Automobile Co.—Pope-Hartford, Pope-Waverley, Pope-Tribune.
Arlington Motor Car Co.—Jackson, Acme.
Banks Brothers Co.—Pierce-Arrow, Stevens-Duryea.
Belden Motor Car Co.—Belden.
Bellfield Motor Car Co.—Couple Gear Freight Wheel Truck, De Luxe, Pennsylvania.
Bensen, B. F. & Co.—Rapid Motor Vehicle Truck, Rainier.
Collins, D. P. & Co.—Lozier, Moon, Studebaker Electric.
Colonial Automobile Co.—Pope-Toledo, Apperson, Baker Electric.
Central Automobile Co.—Reo, Premier.
Diamond Automobile Co.—Buick.
Fort Pitt Automobile Co.—Locomobile, Oldsmobile.
Fort Pitt Motor Mfg. Co.—Pittsburg Six.
Hiland Automobile Co.—Peerless.

Iams Motor Car Co.—Royal Tourist, Corbin.
Imperial Motor Car Co.—Cadillac.
Keystone Automobile Co.—Welch, Stoddard-Dayton, Columbia Electric.
Liberty Automobile Co.—Mitchell, Wayne, Mora.
Pittsburg Motor Vehicle Co.—Pittsburg Truck, Babcock Electric.
Miller Bros.—Model.
Standard Automobile Co.—Packard, Franklin.
Schroeder Automobile Co.—Payne-Modern, Cameron.
Wilkinsburg Automobile Garage.—Elmore.
Winton Motor Carriage Co.—Winton.
The White Co.—White Steamer.

Accessories Exhibitors.

Acetylene Co.	Henry Hubbard.
Atlantic Refining Co.	Iverson Mfg. Co.
Air Tight Steel Tank Co.	Kowalsky, Jno., Motor Works.
Auto Igniter Co.	Kent, A. E.
Automobile Specialty Co.	Motor Tire Repair & Supply Co.
Barcus, J. C., Farina, Ill.	March Metts.
Bowser, S. F., Tank Co.	Morton, U. F.
Banker Bros. Co.	N. Y. & N. J. Lubricant Co.
Cleanola Co.	Oakmont Motor Boat Co.
Doubleday-Hill Electric Co.	Pittsburg Auto Tire & Repair Co.
Davies, J. P. & Co.	Pittsburg Hardware & Home Supply Co.
Diamond Cycle Co.	Pittsburg Rubber Co., Morgan & Wright Tires.
Diamond Tire Co.	Robbins Electric Co.
Eyler & Henry.	Union Electric Co.
Echo Horn Co.	Saiman, John A., & Co.
Firestone Tire Co.	Sprague Umbrella Co.
Fiske Rubber Co.	Standard Automobile Co.
Gabriel Horn Mfg. Co.	Sanford, Earl L.
Goodrich, B. F. Co.	Thompson, E. J., & Co.
Goodyear Rubber Tire Co.	Woodwell, Jos. Co.
Gibney, Jas. L. & Co., Continental Tires.	Warner Instrument Co.
Hartford Suspension Co.	Whitmer & Rung.
Hartford Rubber Works Co.	
Half-Nelson Tire Co., Minneapolis, Minn.	

MONTREAL SHOW IN SUCCESSFUL PROGRESS.

MONTREAL, QUE., April 6.—Montreal's third annual Automobile and Sportsman's Show opened in the Arena Saturday night. All the spaces are occupied, and several of them overoccupied. It is, of course, too early to form any estimate of the amount of business, but quite a number of out-of-town buyers are in attendance and others have intimated by letter or otherwise that they will be on hand. The exhibitors are quite optimistic as regards the week's outlook. The marine displays are a notable feature of the show.

The Automobile Club of Canada, under whose auspices the show is being held, are to be congratulated in having the joint cooperation of such an able show manager as R. M. Jaffray, who is assisted by Dai Lewis, of Buffalo. Duncan McDonald, the president of the club, introduced Mayor Payette of Montreal, who spoke briefly, and then the show was officially open. The decorations are those used at the Sportsman's show in Buffalo, and the general consensus of opinion is that nothing to equal it has ever been seen here before.

Vol. XVIII

Thursday, April 9, 1908

No. 15

THE CLASS JOURNAL COMPANY

Flatiron Building, Madison Square
New York City

H. M. SWETLAND, President

EDITORIAL DEPARTMENT

A. G. BATCHELDER, Managing Editor
R. F. KELSEY, Associate Editor C. B. HAYWARD, Engineering Editor
W. F. BRADLEY

BUSINESS DEPARTMENT

A. B. SWETLAND, Business Manager
LOUIS R. SMITH FRANK B. BARNETT
W. I. RALPH, 1035 Old South Building, Boston, Mass.
C. H. GURNETT, H. E. WESTERDALE, 1200 Michigan Ave., Chicago, Ill.Cable Address - - - - Autoland, New York
Long Distance Telephone - - - - 300 Gramercy, New York

SUBSCRIPTION RATES:

United States and Mexico - - - - One Year, \$3.00
Other Countries in Postal Union, including Canada - - - - One Year, 5.00
To Subscribers—Do not send money by ordinary mail. Remit by Draft, Post-Office or Express Money Order, or Register your letter.

FOREIGN SUBSCRIPTION AGENTS:

ENGLAND:—Illiffe & Sons, Limited, 29 Tudor Street, London, E. C.
FRANCE:—Boyeau & Chevillet, 22 Rue de la Banque, Paris.
GERMANY:—A. Seydel Mohrenstrasse 9, Berlin.Entered at New York, N. Y., as second-class matter.
The Automobile is a consolidation of The Automobile (monthly) and the Motor Review (weekly), May, 1902, Dealer and Repairman (monthly), October, 1903, and the Automobile Magazine (monthly), July, 1907.

Copies printed in 1905 - - - - -	730,000
" " in 1906 - - - - -	791,000
" " in 1907 - - - - -	888,900

A SANE LAW GOVERNING AUTOMOBILING.

No longer the luxury of the few, but now the pleasurable and business necessity of the many, it is a natural sequence that the goings and comings of the automobile should be regulated by common-sense law, preserving the rights of other users of the road and establishing conditions to meet the requirements of the new method of transportation, destined, for economical and time-saving reasons, ultimately to replace vehicles.

Here is the kernel of the proposed New York State law—sponsored in the Senate by such an astute lawmaker as Armstrong and introduced in the Assembly by the experienced Merritt—and it refers to the much discussed miles-per-hour:

Speed Permitted.—No person shall operate a motor vehicle on the public highways of this State at a rate of speed greater than is reasonable and proper, having regard to the width, condition, and use of the highway at the time, and the general and usual rules of the road, or so as to endanger property, or the life or limb of any person.

Connecticut has successfully abolished all of the minor speeds up to 25 miles an hour, and now the Empire State appears willing to return actually to first principles—"having regard to the width, condition, and use of the highway at the time and the general and usual rules of the road," etc.—and the changed attitude of the public seems to harmonize with this most sensible solution of the situation. "Trapping" for excess of eight miles per hour would no longer be possible; there would be no

enforcement of the "law" for purposes of revenue; tourists would not be mulcted for their day of "pleasure."

But the inconsiderate autoist, who, though in a meagre minority, has brought trouble in plenty to the big majority, will find his pathway beset with difficulties in the way of surer identification, heavier punishment, and, finally, banishment from the highway if he does not curb his reckless abuse of the motor-driven vehicle.

Then, recognizing that he may use the road more frequently than the horse-drawn vehicle, the autoist has accepted the situation as he finds it at present and has willingly agreed to an annual registration fee at increased rates—provided that fee is expended in the maintenance of the roads over which he drives his automobile in the pursuit of both business and pleasure. But the fee is also designated as a tax, and the automobile will no longer be taxable as personal property.

While the law would not be exactly as the autoist would like to have it in every particular, it is by all odds the most progressive statute that has ever been proposed. As President Quayle of the New York State Automobile Association puts it: "It is a long step toward the day when motor vehicle laws will be as dead letters as are the bicycle laws passed fifteen years ago and still on the books." And Armstrong was a vital factor in getting some excellent bicycle legislation. It seems perfectly logical that he should lend aid in securing the just rights of the automobile, as he did in obtaining equitable laws for the once great but now lowly bicycle.



AUTO SELLING PROSPECTS EXTREMELY GOOD.

That the unseasonable weather was responsible in large measure for much of the financial trouble that beset automobile dealers and makers last summer, long before what has since come to be called the "late depression" set in, is that much more cause for congratulation on the favorable weather conditions that now appear to be in prospect for this year's selling season. The prospective purchaser of an automobile is not anxious to become the possessor of a machine unless there is some chance of using it and the freezing weather that prevailed last year, practically up to the end of what constitutes the better selling season for autos, namely, June 15, placed an effective damper on stocks in agents' hands.

An open season such as the present gives a greater stimulus than any other single factor possibly could. Every autoist feels the influence of spring and begins to plan runs and tours. Cars that have been laid up for the winter are taken out, and those that have seen constant service during the cold weather are given an overhauling. The man who has been deferring the purchase of a car feels that he can no longer put it off; new accessories are needed by those who already own cars, and, in a hundred and one different ways, business immediately begins to feel the effect of the stimulus afforded by a favorable season. When it is considered what the industry has passed through—practically unscathed—it may well be said that prospects were never better. Much that was undesirable has been weeded out, and, as a whole, the industry has been benefited far more by the process than it has been harmed. It is quite probable that the present season's business will show it.

NEW YORKERS CONTEND FOR COMMON-SENSE LAW

ALBANY, N. Y., April 6.—A bill regulating the use and identification of motor vehicles while operated on the public highways of the State was introduced in the Senate and Assembly on Friday last. Senator W. W. Armstrong, well remembered as the man responsible for the once famous bicycle baggage bill and chairman of the insurance investigations, stands sponsor for the bill in the Senate. In the lower house, Assemblyman Merritt is the introducer. The bill is understood to represent the result of several conferences between the New York State Automobile Association representing the motor users of the State, and the prominent members of the Legislature, and will undoubtedly become a law. It will take the place of the present Motor Vehicle law passed in 1904. It follows quite closely the so-called Uniform Motor Vehicle bill proposed by the American Automobile Association and now being considered by the legislators of other States, and will take effect July 1, 1908. Commenting upon the measure, President O. A. Quayle, of the New York State Automobile Association, says:

"The bill makes several notable changes in the present statute. To meet the prevailing view that motor vehicles seriously injure the improved highways and should, therefore, contribute a considerable sum toward the maintenance of such highways, the bill substitutes for the present small registration fee an annual registration tax graded upward from \$5 for small vehicles, and dependent upon the weight of the vehicle. This, it is estimated, will result in a revenue which, under the terms of the bill, must be used in the maintenance of the improved roads of the State, amounting to upwards of \$400,000. The registration tax includes the furnishing by the State without cost of the two number placards which the new bill requires every vehicle to carry.

"Recognizing that this fee is a tax, the bill exempts all motor vehicles from taxation as personal property. Vehicles used solely for commercial purposes will be registered at half the fees required of the owners of pleasure vehicles, in no event more than \$10, and will not be exempted from ordinary taxation.

"The bill also includes several clauses making far easier identification; thus it requires new numbers annually, the number plates to be of different color each year. More, it requires that these numbers be displayed on both the front and rear of the vehicle; that they be fixed rigidly to the vehicle so as not to swing, and that the rear number be illuminated at night. Still further, and perhaps more important, the display of any number on a motor vehicle other than that issued by New York is prohibited.

"As a means to the detection of chronic offenders, the Secretary of State is required to furnish each county clerk with a list of registered vehicles and registered chauffeurs, and provision is also made for the entry on these lists of the records

of violations of the new speed provisions of the proposed law.

"It being thought that the time is come when the common law rule applicable to the speed of horse-drawn vehicles can be applied to motor vehicles, the arbitrary limit of miles per hour is eliminated and permissive speed is made dependent solely upon the width, condition and use of the highway at the time, and the general and usual rules of the road. Conversely, it has been thought proper to make the penalties for the violation of the speed provisions of the law much more severe and to give a wide discretion in the matter of punishment to magistrates charged with the enforcement of the law. Hence, should the bill become a law, it will hereafter be possible for a magistrate to penalize excessive speeding by a fine of not more than \$250 for a first offense and by a fine not exceeding \$500 for a second offense, or imprisonment not exceeding six months, or both. In no other way has it been thought possible to enforce the common law rule as to permissive speed as above stated. Nor is it believed that the extreme penalty will ever be asserted against any but old offenders and those who by their conduct on the streets and public highways bring motorists generally into disrepute.

"The bill takes from local authorities all power to regulate the use of or to tax motor vehicles. The bill also provides that non-skidding devices may be used only when the highways are wet, slippery or covered with ice and snow, and contains the usual provisions exempting manufacturers and dealers from annual registration. There are also provisions requiring lamps, horns, brakes, and the like, and provisions compelling motorists to stop on signal, and exempting non-residents of the State from registration providing they have registered their vehicles under similar laws in their own States and that they display their State numbers when operating such vehicles in this State.

"It is thought that this bill, when passed, will mark the beginning of a new era in the treatment of motor users by government, and that it is a long step toward the day when motor vehicle laws will be as dead letters as are the bicycle laws passed fifteen years ago and still on the books.

"While its penalties will at first blush seem severe, the placing of the motor vehicle on a parity with all other vehicles on the highway and the removal of all arbitrary miles per hour restrictions is the high-water mark in motor vehicle legislation thus far. On the other hand the autoists of New York, thoroughly organized and militant, and thus able to make their views felt, are the first of the organized motorists of the world to formally recognize that until highways can be constructed that will resist the suction and wear of these vehicles and their rubber tires, government has the right to ask a toll or tax from such vehicle owners, which can be used in repairing the damage thus done."

VANDERBILT CUP RULES SET NEW WEIGHT LIMITS

A WEIGHT limit, which will bring all candidate cars within the present international restrictions in that particular and at the same time serve as a comprehensive standard of eligibility, was adopted by the Racing Board at its meeting, April 2, at A. A. A. headquarters, to discuss, determine and promulgate rules for the Vanderbilt Cup race for 1908.

This weight was set at a minimum of 900 kilograms or 1,983.6 pounds, and at maximum of 1,200 kilograms or 2,644.8 pounds, the previous sole limit having been 1,000 kilograms or 2,204 pounds. The minimum limit is that set for the next Grand Prix contest, in which there is no maximum weight limit, the cars being restricted solely to piston displacement.

Other rules of importance governing the next race for the

Vanderbilt Cup provide that 10 cars may represent any one country; that the entry fee for each car shall be \$1,000; that entries shall close on September 1, and that entrants after that date up to October 1, the date of the final closing of entries, shall pay double entry fees.

The date and route of the race will be announced by the Cup Commission not later than July 1. Already the nominations of two Locomobiles, two Thomas Flyers, two Appersons, a Darracq, and a Renault are practically assured.

The Savannahians, encouraged by the success of their stock car races, are hustling hard to comply with any requirement that may be made as to a longer course and assurances of their ability to accommodate the visiting throng. Missourians have not given

up hope that the choice of the course may fall upon St. Louis. A course in Connecticut has also put forth tentative claims to consideration.

The racing rules submitted by the special committee, made up of Jefferson deMont Thompson, A. L. Riker, S. A. Miles and Alfred Reeves, were considered and slightly amended. They will be promulgated later.

Frank C. Battey, president of the Savannah Automobile Club, was appointed a member of the Racing Board by Chairman Thompson. A resolution was unanimously adopted extending a vote of thanks to President Frank C. Battey and officers of the Savannah Automobile Club, Mayor George W. Tiedeman, Major

William B. Stephens, and Captain R. J. Davant, in command of the military forces patrolling the course, Captain W. G. Austin, chief of police of the city of Savannah, the trade and civic bodies, Governor Hoke Smith, General Clifford L. Anderson, and other State officials, for their splendid cooperation and support in the successful conduct of the automobile races.

The racing Board members in attendance at the meeting were Jefferson deMont Thompson, chairman; Frank G. Webb, M. Rossiter Worthington, Harry W. Knights, A. G. Batchelder, Alfred Reeves, A. L. Riker and Frederick H. Elliott, secretary. Telephonic communication was had with W. K. Vanderbilt, Jr., concerning cup-race matters.

CHAIRMAN THOMPSON OFFERS CUP FOR STOCK CAR EVENT

THERE was a meeting Tuesday morning last in New York City, at the offices of the American Automobile Association, 437 Fifth avenue, of the Central Conference committee, representative of the American Automobile Association, the National Association of Automobile Manufacturers, and the American Motor Car Manufacturers' Association, at which the following representatives were present:

Representing the A. A. A.—President Wm. H. Hotchkiss; Chairman Thompson, of the Racing board; Chairman Hooper, of the Good Roads board; Chairman Hower, of the Touring board; F. H. Elliott, secretary; L. H. Speare, first vice-president; O. A. Quayle, president New York State Automobile Association.

Representing the National Association of Automobile Manufacturers.—S. D. Waldon, Windsor T. White.

Representing the American Motor Car Manufacturers' Association.—Alfred Reeves, R. M. Owen, Harry Fosdick.

Numerous matters of common interest to such bodies were discussed, among them the following:

Touring.—Chairman Hower of the Touring board of the American Automobile Association outlined his plans in connection with the tour and asked for suggestions from the representatives present in regard to the fifth annual reliability touring contest for the year 1908, and received several suggestions which will be incorporated in the rules.

Racing.—The racing season being about to open, Chairman Thompson of the Racing board asked for suggestions in connection with the miscellaneous races on circular tracks, and also in connection with the Vanderbilt Cup race. He announced that the Cup race would certainly be held, and that negotiations for a course in the States of Missouri, Georgia and Connecticut were already well

under way. He called attention to the success of the recent Savannah stock touring car races. The representatives of the manufacturers present suggested that there should be but one contest of the latter kind each year, and that it should be international in its character.

This view met with the approval of all of the representatives present, whereupon Chairman Thompson announced that if the manufacturers would support such an international contest, he would be pleased to give to the American Automobile Association, as the national governing body, a cup valued at \$3,000, to be known as the Jefferson DeMont Thompson Cup, similar to the Glidden and Vanderbilt trophies, which might be competed for solely by stock cars in one great annual event. His offer was enthusiastically approved, and the representatives of the manufacturing bodies stated that they would present the matter to their associations at the first possible opportunity. It is likely, therefore, that hereafter there will be one great classic event for stock touring cars in this country.

Buffalo Convention.—The proposed convention of the American Automobile Association, to be held at Buffalo coincident with the beginning of the fifth annual tour, was also considered. Chairman Hooper of the Good Roads board being present. It was the opinion of the various representatives that good roads should be the keynote of such convention, and that, if possible, other organizations interested in the subject be asked to co-operate.

Sanctions.—Numerous applications which are being made for sanctions for endurance contests and hill climbs were brought to the attention of the Conference committee, and the representatives of the manufacturers' associations assured the A. A. A. that it would stand back of such association in granting or withholding sanctions for such contests as well as any similar action as to races on circular tracks.

New York Bill Approved.—The pending bill for a new motor vehicle law in the State of New York was also brought up for consideration and discussed.

Other Conferences.—The conference is doubtless the first of several which will be held during the summer season, and illustrates the close relationship which exists between the representative body of motor users in this country, viz.: the American Automobile Association and the representative bodies of automobile manufacturers, viz.: the National Association of Automobile Manufacturers and the American Motor Car Manufacturers' Association.

PRESIDENT BATTEY PRESENTS SAVANNAH'S PROPOSITION

THE monthly meeting of the executive committee of the American Automobile Association, held Tuesday afternoon at the national headquarters, No. 437 Fifth avenue, developed the fact that no report has yet come from the Judiciary committee of the House of Representatives concerning the Federal Registration bill. President William H. Hotchkiss stated that, despite a news dispatch printed with a Washington date, he was positively informed that the committee had yet to reach a decision on the matter.

The Kentucky State Automobile Association was admitted to membership, now possessing the requisite three clubs.

Chairman F. B. Hower of the Touring board reported the rules for the annual tour, which were adopted without discussion.

Chairman J. D. Thompson of the Racing board presented the revised racing rules, which, with slight modifications, were adopted.

The Technical board was authorized to draft rules for technical contests and reliability runs and tours, and asked to report at the May meeting of the executive committee.

Mr. Battey thoroughly presented the claims of Savannah as a place for the holding of the Vanderbilt Cup race, read a letter from Governor Hoke Smith guaranteeing sufficient troops for the guarding of the course, and said the Georgia city would provide comfortably for all who come to see the race. Since the

matter is one for decision by the Vanderbilt Cup Commission, Savannah's application was referred to that body, which is practically the Racing Board of the A. A. A.

S. D. Waldon, representing the N. A. A. M., and Alfred Reeves, representing the A. M. C. M. A., were announced as being added to the executive committee for the Buffalo convention.

Present were: President William H. Hotchkiss, O. A. Quayle, Jefferson DeMont Thompson, F. B. Hower, A. G. Batchelder, of the New York State Automobile Association; L. R. Speare, Massachusetts State Automobile Association; G. E. Farrington, Associated Automobile Clubs of New Jersey; Windsor T. White, Ohio State Automobile Association; Robert P. Hooper, Paul C. Wolff, Pennsylvania Motor Federation; F. C. Battey, Savannah (Ga.) Automobile Club; Secretary F. H. Elliott.

CLEVELAND'S CLIMB TO BE HELD JUNE 13.

CLEVELAND, O., April 7.—The date for the annual Cleveland hill climb, originally announced as May 30, has been changed to June 13, in order that there may be no conflict with other events of a like character in other cities on the same date.

The annual meeting of the Ohio State Automobile Association has been set for June 13, the date of the hill climb.

PEOPLE WHOSE SAY-SO IS WORTH WHILE.

Roy D. Chapin, Thomas Detroit Motor Car Co., Detroit, Mich.: "On my return from my trip to the Pacific coast I found conditions at the factory most satisfactory. They are working day and night shifts and on Sunday too though, perhaps, I ought not to let that cat out of the bag. We have produced more cars to date than last season and have led our 1907 production every month except February and March. Sales though, were 25 ahead of March of last year. I always watch the spare part department demands with interest, for its reports always show the weak spots in a car. There seems to be no demand yet for parts for our 1908 car, so I infer it is standing up all right. In fact, I think that this year in the Thomas Detroit we have a mighty well balanced car."

H. O. Smith, Premier Motor Car Co., Indianapolis, Ind.: "I am glad to see that the A. A. A. has decided to officially call this year's tour a reliability contest. I have always been opposed to the name of tour, as it makes the event appear more like a joy ride. The object of the event is to demonstrate the reliability and staying qualities of the cars entered, rather than an affair for a good time, as the word tour implies. The contest for the Glidden trophy as conducted by the A. A. A. has accomplished wonders for the industry as it has shown the public that the American-built car is capable of withstanding the most severe tests and can perform the exacting duties expected of it over all kinds of roads and under trying circumstances."

E. H. Parkhurst, Peerless Motor Car Co., Cleveland, O.: "In my opinion, the talk of depression in the automobile business is not borne out by facts. In comparison with other industries near Cleveland, I find we have maintained a larger proportion of our full factory force at work than in any other industry of similar size. What depression there has been is incidental to general business depression. In spite of all the talk, our deliveries for March were greater this year than last."

Benjamin Briscoe, Maxwell-Briscoe Motor Co., Tarrytown, N. Y.: "Every Spring one hears the question asked, 'Of what use is automobile racing, what good purpose do hill-climbing contests serve, of what practical value are records made in economy, reliability, sealed bonnet, and other stunts?' Participation in these contests is expensive; but I believe they are worth all they cost. Of course, if the maker could sell his product, unsight-and-unseen, have the money he expends in advertising in various forms, eliminate the agent and realize a lot of other weird dreams, it would be fine—for the maker. But it has been ordained that nothing may be had without effort or cost, and to this the automobile buying public has added the further condition, 'You'll have to show me.' Contests do show them."

W. H. Van Dervoort, Moline Automobile Co., Moline, Ill.: "New Yorkers live too near Wall Street. They ought to take a trip West, get a breath of fresh air, and throw off the scare. Why, out in Moline we heard about a 'panic,' but until I saw the blanched faces here I didn't know such a strong term was necessary to express the conditions. Lately the banks have loosened up for all we needed, so we suppose the little unpleasantness had passed and been forgotten. But you don't seem to know the war is over yet."

DETROIT'S BOARD OF COMMERCE IMPRESSED.

DETROIT, April 6.—One afternoon last week the Detroit board of commerce was impressed with the magnitude of the automobile industry. The board had decided to make a tour of the many large factories in Detroit, and began with a visit to the Packard plant. The party was carried from the Board of Commerce Building to the Packard factory in a dozen Packard cars, and then made the tour of the different departments of the factory under the guidance of Sales Manager Waldon, and with other Packard executives to explain the why and wherefore of

motor car construction. The general opinion was expressed by Secretary Ritchie, as follows:

"When we laid out Detroit's Boulevard, we had no idea that any factory with eleven acres of floor space would be built on it. Nor did we know until to-day, that such a thing had been accomplished. Of course, it is natural that a manufacturing company should choose such an advantageous site as the junction of the Boulevard and Belt Line Railway. And we are glad that this location has the country's largest automobile factory, in beautiful modern buildings, instead of the clutter of shanties which generally characterize railway crossings."

Even those of the board who had barely a speaking acquaintance with things mechanical were visibly impressed by the fact that hundreds of diversified lines of work, employing high-grade machinery and skilled labor from nearly all branches of industry, had been organized into a smoothly running system for just the one purpose of manufacturing Packard cars.

POWERFUL RACERS FOR MONACO BOAT MEET.

PARIS, April 1.—Paris having sent away its annual load of motor boats for the Monaco exhibition and races, speculation is rife as to the records that may be made by the fast craft. From April 1 to 4, the public exhibition and trials will take place, the competitive races opening on Sunday, April 5, for cruisers only. The real interest centers round the last days of the meet, when the championship of the sea, the mile and kilometer, and 50 kilometer events are held.

Half a dozen boats stand out prominently as possible creators of record speeds, the most popular among them being the *Panhard-Levassor*, a 49-foot boat, built by Tellier of Paris, and engined by Panhard. The power plant consists of four Panhard motors of four cylinders each, grouped in tandem, and operating two propellers. Each cylinder having a bore of 7.2 inches, the rating of 120-horsepower per engine, or 480 for the entire plant, is not exaggerated. In the trial spins on the Seine, before being shipped for the South, the *Panhard-Levassor* attained a speed of 38 miles an hour upstream, and 39 miles with the current, which is certainly remarkably fast going for a preliminary test. In the smaller series, Tellier and Panhard will be represented by the *Rapiere III.*, successor in a series of exceptionally fast boats.

Brasier will be represented by the *New Treble*, owned by the English sportsman, Mr. Thubron, and prepared for the races by Gustave Caillois, after an unsuccessful showing last year. A second Brasier, to sail under the name of the *Grand Treble*, has its steel hull filled with three powerful Brasier racing motors, rated at 130-horsepower each. Despujols, who built the hull, appears to have erred in not sufficiently protecting the engine from water. In a calm sea the boat should be able to get near to 40 miles per hour, but it is doubtful if she will be able to maintain a high rate of speed in a swell.

Italy will send the *Jeanette*, owned by Vincenzo Florio, and equipped with a couple of 120-horsepower Itala engines. *Fiat-Gallinari* has in her 40-foot hull a couple of six-cylinder engines, developing a total horsepower of 250. The boat is looked upon as one of the most serious rivals of the French fleet.

Great Britain is pinning her faith to the *Wolseley-Siddley*, built by Saunders, one of the most skilled of British boat builders, and engined by the Wolseley firm. Its power plant consists of a couple of eight-cylinder motors, developing 200-horsepower. The engines are placed side by side in the hull, and operate independent propellers. In Southampton waters, the English boat attained a speed of over 30 knots an hour. Her victory is looked upon as certain if the weather is rough. *Scarlet Runner*, which will compete under the Union Jack in the small racer class, is only looked upon as a winner under rough weather conditions.

America will not be represented in the racing classes, W. H. Fauber, well known in the States in connection with the bicycle industry, has promised a new type of boat with aerial propeller, but, according to the latest indications, has not been able to advance the work sufficiently to appear at the Monaco meet.



Roomy Lines of the New Renault Taxicabs.

LACROIX' NEW RENAULT TAXICAB LINE.

By the way of a nucleus of a new taxicab line just started in New York, Paul Lacroix has secured a 10-14-horsepower Renault of this kind. It will be followed by some 50 others, which are expected to arrive from France before July 1, though within a month it is anticipated by Mr. Lacroix that enough will have come to have 20 cabs in operation. The Renault taxicab in question has two seats upholstered in leather, electric lights, hanging speaking tube, cigarette case, ash receiver, and other fittings, and is equipped with four anti-skid tires. Special attention has been paid to providing easy riding springs. The headquarters of the service will be at the Renault branch, Broadway and Fifty-seventh street, though stations at three prominent restaurants have been arranged for by Mr. Lacroix.

ANOTHER TAXICAB FROM THE WEST.

One of the latest entrants into the field of taxicab building is the Jackson Automobile Company, Jackson, Mich., and the result of their efforts in this direction is illustrated by the accompanying photograph. This newcomer to the Jackson fold has a 90-inch wheelbase, 30-inch wheels and 3 1-2-inch tires. It is equipped with a 2-cylinder, 16-horsepower, horizontal, 4-cycle, water-cooled motor, and has a planetary change-speed gear, giving two speeds forward and reverse, so arranged that they may be operated by pedals, for convenience in city driving. It is hung on full-elliptic springs in the rear and semi-elliptic front. The car is geared for a speed of 25 miles an hour, and is built to carry four passengers inside. Some of them have already been delivered in New York and Boston, where they are greatly admired. Durability and economy of maintenance have been the chief objects of the designer, and the car claimed to greatly excel in these features.



First of the Horizontal-Engined Taxicabs.

FIRST "PITTSBURG SIX" ON THE ROAD.

NEW KENSINGTON, PA., April 6.—On the occasion of its test, made recently by the designer, B. G. von Rottweiler, the first "Pittsburg Six," as the new cars being turned out by the Fort Pitt Motor Manufacturing Company are known, showed a speed of 68 miles an hour. Mr. von Rottweiler has been building four-cylinder cars in Europe for a number of years, and until recently would not hear of lengthening the motor by an additional pair of cylinders. Now he is an enthusiastic six-cylinder advocate, and his new creation has exceeded his fondest expectations in the way of power and speed. Foreign lines have been very closely followed, as may be seen from the accompanying photograph of the car, as it has the Mercedes type of radiator, axles and wheels. The motor is capable of delivering 75-horsepower at 1,000 r.p.m., its normal speed being lower than this. The car lists at \$2,100, completely equipped as shown.

At the present writing, Mr. von Rottweiler is working on a special six-cylinder racing car, to have a motor measuring 162 mm. bore by 155 mm. stroke, and to give 160-horsepower, which, he thinks, will be the fastest thing on wheels. When it is completed, he expects to issue a general challenge to all comers for a trial of speed, which should prove interesting.



"Pittsburg Six," a Newcomer from the Smoky City.

FAIRWEATHER CLUB HONORS COL. PARDEE.

NEW YORK CITY, April 6.—High flights of oratory were handed out to a hundred members of the Fairweather Club on April 1, when they gathered at the Cumberland Hotel for their second dinner, with Col. K. C. Pardee, manager of the Maxwell-Briscoe local branch, for the guest of honor. There were a pair of speakers at hand of almost national reputation. The toastmaster, Henry M. Duncan, who has charge of the automobile department of J. B. Brewster & Co., also proved himself capable as an after-dinner talker a bit above the average, and perhaps the best heard at the general run of trade and club banquets. He had pretty poetry to quote galore, and springtime thoughts.

Colonel Pardee, after making his acknowledgments of the compliments paid to him, switched to a historic outline of the birth of the motor microbe, a review of its growth, and a peroration as to its future.

Then came John S. Crosby, a follower of Henry George, who, after touching humorously for a few minutes on the automobile, launched forth in an oration on "The Right of Way," pleading for the right of man to life, liberty, property, contract and land.

Benjamin Briscoe thought that Mr. Crosby was a bit too severe on corporations and suggested that they were, perhaps, after all, but a forerunner of co-operation and mutuality of human endeavor.

Creswell McLaughlin, editor of *The Schoolmaster*, after some funny stories and merry quips, switched to a warning of the dangers besetting the republic, with a glowing tribute to President Roosevelt for his courage in battling against them. "Tom" Moore also talked, with the Briarcliff race for a topic.

BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

The completed stock and supplies of the Dragon Motor Company have been sold to the Gerson Auto Exchange, 617-619 Arch street, Philadelphia.

Monday at 10 A.M., the first day of New York City's Carnival Week, Percy Williams purchased from Paul Lacroix a 35-45-horsepower touring car. This is the first recorded sale of Carnival Week.

The Matheson Automobile Company, of Wilkes-Barre, Pa., employing 400 hands, resumed operations on April 1 after two months of idleness. Orders have been received for \$400,000 worth of cars and all the old hands were put back to work.

In the issue of THE AUTOMOBILE of March 26, on page 452, H. R. Teele was given as the patentee of the tire case shown. This was an error, as the patentee of the case in question is F. B. Hopewell, of Hopewell Brothers, Cambridge, Mass.

Andrew Carnegie, the well-known iron-master, has purchased a Studebaker car for his tour through the Scottish Highlands the coming summer. The car is equipped with a low-gearred axle and a strongly reinforced limousine top, for the purpose of carrying heavy baggage and touring equipment.

A new repair shop and garage has been opened at Peoria, Ill., at Madison and Liberty streets, by Phil Stein and Clarence Christ. They will make a specialty of catering to users of the Glide car, which are numerous in its home city. Both members of the firm were formerly connected with the Glide factory.

The Rochester Tire Company, Rochester, N. Y., capitalized at \$20,000, filed its certificate of incorporation last week. The concern will deal in automobiles, and the directors are Percy W. Hodgkinson, Robert B. Cochrane, Emil Broeker, Charles H. Hall, Thomas J. Thurber, Richard P. Martin, and Charles D. Camp.

Complete to the minutest detail, the handsome new salesrooms and garage of the Bergdoll Motor Car Company, at 325-327 North Broad street, Philadelphia, will be thrown open to the public during the present week. "Open house" with all the usual floral, musical and gastronomical trimmings will be in order.

In the recent automobile races held in Havana, Cuba, a Winton Sixteen-Six won the race for runabouts of 25-50-horsepower, defeating one American and four foreign entries. The time was 2:11 3-5, over a 1.7-mile course, with one sharp and very dangerous turn. The second car finished four seconds later, and the last foreign car was 31 seconds behind.

The affairs of the Boyer Motor Car Company, of San Francisco, are being wound up. The company suffered two fires during the past year, and was unable to successfully pull through the recent business depression. The Boyer Company handled the Franklin and Royal lines. Mr. Boyer will continue as a leading selling factor with the new Franklin agency, the Consolidated Motor Car Company.

Wm. P. Miller's Sons, Long Island City, N. Y., manufacturers of Pan-o-lite oils and greases have begun the erection of a new factory and office building on Hancock street, near Webster avenue. The building

will be brick and iron, two stories high, and will give the concern the much needed room it desires to handle its growing business.

The Corbin Motor Vehicle Corporation, of New Britain, Conn., has increased its capital stock from \$200,000 to \$500,000. The increase was made necessary by the expanding demand for its product, which had to be met with increased facilities for production. The company states that the sales of Corbin cars for the first three months of the present year far exceed those for the same period of last year.

RECENT BUSINESS CHANGES.

The Penn Motor Car Company, agent for the Mitchell car in Philadelphia, removed last week from Broad and Ridge avenue to new and much larger quarters at 138-140 North Broad street.

Owing to the necessity of being located at a better distributing point, the Slama Tire Protector Company has removed its general offices from Humboldt, Neb., to 609 East Fifteenth street, Kansas City, Mo. The factory will remain at Humboldt.

The Continental Caoutchouc Company, which has had its headquarters for a number of years at 43 Warren street, New York City, announces its removal to 1788-1790 Broadway, corner of Fifty-eighth street, the premises formerly occupied by the Baker Electric Company. The Continental people will take immediate possession. General Manager Gilbert reports an increasing demand for Continental tires this season, particularly for the new demountable rim carrying ready-flated tires.

NEW AGENCIES ESTABLISHED.

The Babcock electric was last week added to the long list of cars represented in Philadelphia. Prescott Adamson, Broad and Spring Garden streets, who handles the Columbia gasoline and electric cars, will look after the interests of the new comer in the Quaker City.

The Consolidated Motor Car Company, 402-406 Golden Gate avenue, San Francisco, has taken the agency for the Franklin and will be exclusive Franklin dealers in that city. The officers of the company are: President and manager, S. G. Chapman; vice-president, J. H. Doust; secretary, Max L. Rosenfeld. Other new Franklin agencies established are with the Brown Brokerage Company of Coffeyville, Kans., which has opened a new modern salesroom and garage, and with W. B. Jernigan, who will open a new salesroom and garage at Pensacola, Fla., and handle the Franklin exclusively.

New agencies for Jewel automobiles have been established by the makers the Forest City Motor Car Company of Massillon, O., as follows: Jewel Automobile Company, 210 Temple Court, Denver, Col.; J. A. Lory, Rock Rapids, Ia.; Wm. Robinson, Decorah, Ia.; L. N. Simon, Goff, Kans.; Henry Humfreville, Waterville, Kans.; Edward C. Hubert, New Orleans; L. E. Gordon, Deer Lodge, Mont.; M. J. Cook, Holland, Mich.; Boyce Carriage Company, 324 Ross avenue, Winnipeg, Canada; O. S. Sagmoen, Crary, North Dakota; M. A. Grant, 1016 Prairie avenue, Houston, Tex.; Herman F. Gerhard, Austin, Tex.; C. H. Dean, 226 South Flores street, San

Antonio, Tex.; Ray-Wortham Company, 609 Throckmorton street, Fort Worth, Tex.; Auto Service & Motor Company, Cheyenne, Wyo.; Coatsville Carriage Company, Coatsville, Pa.

PERSONAL TRADE MENTION.

Charles B. Shanks, sales manager of the Winton Motor Carriage Company, Cleveland, O., is taking the baths at Mudavia, the famous Indiana health resort. Major H. L. Kramer, proprietor of Mudavia, is a Winton enthusiast of long standing.

Leman Greenwald has resigned as superintendent of the Empire State Tire Company of Buffalo, N. Y., to whom he sold one of his inventions, the Greenwald internal protector. Mr. Greenwald will devote his time to perfecting some other inventions in the tire equipment line, a public announcement of which will be made later.

Carl Kaufman, general manager and treasurer of the Motor Car Equipment Company, 55 Warren street, New York City, sailed for Europe on Tuesday, April 7, where he will spend two months getting into touch with the leading manufacturers of automobile equipment and supplies, and place large orders for the new goods on the European market.

Dr. Chas. G. Percival, until the beginning of the present month sales manager and publicity promoter for the Cleveland Motor Car Company, of New York City, will, in the future, be associated with F. Edward Spooner in conducting the automobile department of the A. W. Erickson Advertising Agency, and in the publicity work of Mr. Spooner. Dr. Percival has been identified with the automobile industry since its earliest inception in this country as a publicity expert.

Through the efforts of the E. A. Jenkins Motor Company, R. M. Owen, of R. M. Owen & Company, general sales agents for the Reo and Premier lines, was given an enthusiastic reception on his recent visit to Columbia, South Carolina. He was made the guest of honor at a banquet at which most of the prominent autoists in that vicinity were present. At this banquet a movement was started to improve the road between Columbia and Camden, S. C., and almost \$1,000 was subscribed.

Charles M. Steele, a former Chicago newspaper man, has joined the E. R. Thomas Detroit Company. Mr. Steele will have charge of all publicity for the Thomas Detroit Company and will assist Lee Counselman, the sales manager. Mr. Steele comes from the H. H. Franklin Mfg. Co., of Syracuse, N. Y., where he held the position of advertising manager. Prior to his connection with the Franklin Company he was in charge of the publicity department of the National Cash Register Company. Mr. Steele's work there first brought him to the attention of Hugh Chalmers, formerly general manager of the cash register company and now president of the Thomas Detroit Company.

BYRON J. CARTER DEAD.

DETROIT, MICH., April 7.—Byron J. Carter, vice-president and general manager of the Motor Car Company of Detroit, and inventor of the friction type of drive applied on the well-known Carter car, succumbed to pneumonia yesterday.

INFORMATION FOR AUTO-USERS

Rex T-Socket Wrench.—There is no task so difficult as that of making repairs or adjustments without the aid of the proper tools, and autoists have learned to their cost only too often that tools made for ordinary purposes are not suited to the special needs of the automobile.

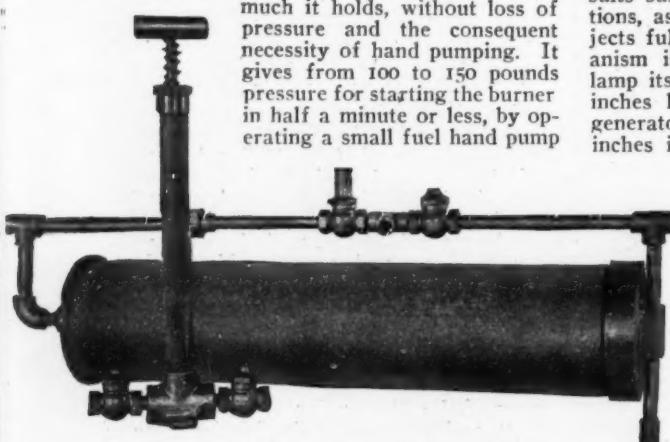
This is particularly true of the wrenches generally provided, for despite the best efforts of the designer, it is impossible to make every part of the mechanism of a car as accessible as it would have to be in order to permit of reaching it with an ordinary wrench. Many nuts and bolts have to be turned around a corner, and here is just where the value of a special set of wrenches, such as the Rex, comes in. It is being manufactured and marketed by the Rex Wrench Company, Boston, Mass. A Rex wrench outfit consists of a full set of interchangeable steel sockets of special form and a handle to which they may be attached and instantly locked at any desired angle. These sockets are in a series, comprising the standard sizes of nuts. The crossbar in the handle may be firmly set at any position to give the best hold for getting into corners. Screwdriver and spark plug wrench parts are also provided, and may be fastened to the handle in the same way.



REX WRENCH AND PARTS.

Automatic Fuel Feed.—One of the greatest drawbacks of the early steam automobiles was the difficulty encountered in maintaining a constant and uniform fuel feed. To overcome this, F. W. Ofeldt & Sons, Nyack-on-the-Hudson, N. Y., have invented and perfected a device which they term an "Automatic Fuel Feed." Its greatest advantage is that it does away with air pressure for feeding the fuel and saves much laborious pumping that makes running a steamer far from a pleasure at times. It permits of any quantity of fuel being put into the tank, and of the tank being examined at any time to learn how

much it holds, without loss of pressure and the consequent necessity of hand pumping. It gives from 100 to 150 pounds pressure for starting the burner in half a minute or less, by operating a small fuel hand pump



OFELDT AUTOMATIC FUEL FOR STEAM CARS.

with the thumb and forefinger. A perfectly tight fuel line is always possible with it, as any leaks can be seen and repaired, and it makes the steam car the easiest to start, in addition to making it far safer than where a large tank of kerosene or gasoline is constantly carried under a high air-pressure, as in the Ofeldt system, only about three pints of fuel are under pressure at one time in the 18-inch automatic fuel feed.

Electric Arc Searchlights.—To supply the demand for a *real* searchlight, i. e., one of the electric arc type, for automobile use, the Richardson Engineering Company, Hartford, Conn., has just brought out the style shown by the accompanying illustration. It is equipped with a Mangin mirror and takes current from a small direct-current generator run by the engine. Unlike previous attempts at this form of lighting direct from the generator, the new Richardson searchlight throws an effective beam at all speeds over a walk, and does not go out as long as the engine continues to run at anything above the rate at which it is



RICHARDSON ELECTRIC SEARCHLIGHT.

merely turning over. Naturally, the light is diminished at low speeds but the makers claim that it is greater than that given by an acetylene lamp, even under such conditions. At normal speed it is capable of lighting up comparatively small objects fully one-fourth mile away. D. A. Richardson has tried one of these searchlights out on his own car and found that the results surpassed his most sanguine expectations, as he was able to pick up large objects fully one-half mile away. The mechanism is strong, simple and durable, the lamp itself measuring 8 inches wide, by 12 inches long by 12 inches high, while the generator necessary to operate it is 7 1/2 inches in diameter and weighs 45 pounds.

The dynamo is of the direct-current type, and has been designed especially with a view to this particular service.

Tray Plate Batteries.—In adapting accumulator to auto service for ignition, the chief difficulty encountered at the outset was the rough usage to which they were subjected, and which caused the plates to disintegrate, the active material soon piling up on the

bottom of the cell and short-circuiting the different elements. The Tray Plate Battery Company, 5 Frederick street, Binghamton, N. Y., have made a special study of the conditions of automobile ignition service and as a result have brought out a cell particularly designed to give the



TRAY PLATE IGNITION ACCUMULATOR.

maximum life and efficiency under rough usage. They have made a series of practical road tests extending over the past three years, and have found that their batteries will run a four-cylinder touring car as far as 3,400 miles on a single charge. The grids employed are constructed to give a large amount of active material with ample conducting surface for the current, and all materials used are chemically pure. The cells are so made that they may be inverted without spilling any of the acid, thus preventing corrosion of the terminals.



ANOTHER STYLE TRAY PLATE BATTERY.

The makers also guarantee the Tray Plate cells to be non-sulphating, so that they have a long life with a minimum up-keep expense. The accompanying illustrations show two types of complete batteries.

"Non-Gran" Bronze.—According to the makers of "Non-Gran" bronze bearing metal, "granulation is the basic cause of all cutting," and one of the greatest advantages of their product is that it is absolutely proof against granulation. It is positively smooth-wearing and works for long periods under constant, heavy service with a minimum of friction. The makers, the American Bronze Company, Berwyn, Pa., have been supplying a number of the most prominent American builders of cars for several years past, and are always ready to answer inquiries concerning the nature of their product as well as its adaptability for special forms of automobile service. Prime lake copper is the basis of the "Non-Gran" bronze bearing metals and everything used in its manufacture is of the highest grade.